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# THE JOURNAL

OF THE

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## THE ARMY IN RELATION TO THE TUBERCULOSIS PROBLEM.\*

Colonel G. E. Bushnell, United States Army.

(Gentlemen: We who are working in the Surgeon General's office are extremely busy; the work seems to get heavier all of the time, and you may wonder why we are allowed to go away. The reason is that the Surgeon General is impressed with the necessity of bringing the true facts connected with the activities of his department before the American people, and especially before the medical profession, and he thinks it is worth while to give up our work occasionally and come down to a meeting like this. It is very important that the activities of the Surgeon General's office shall be accurately understood by the medical profession of the United States, but it is still more important that the American people shall understand that the Surgeon General wants the enor-

mous influence of the medical profession upon the people of the United States to disseminate correct ideas as to what is going on and as to the facts, medical facts in the army. What I call medical facts in the army are facts that are very disquieting sometimes to parents and friends of the soldiers who make up such a large part of the present population of the United States. There are no theories of facts of this nature more important to have correctly apprehended than the facts relating to tuberculosis, not only on account of the importance of the disease, but because a great many erroneous facts have been disseminated. Such statements as to the prevalence of tuberculosis in the European Army were spread at first with the best intention and they were believed to be correct by most conscientious members of our profession. It has been learned that they are not correct, and the original statements it is believed were ultimately inspired by friends of the enemy. Therefore, it is of the utmost importance that you gentlemen should understand what the facts are. As you listen to my paper, if you consider it of too popular a nature for a scientific

\*Read at meeting of Medical Association of Georgia, Savannah, Ga., 1918.

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professional gathering like this, I wish you would consider it in the light of an attempt to set before the disseminators of such information as you may obtain from it.)

You will recall that in the early part of the year 1917, just after this country plunged into the great war, there was much anxiety expressed as to tuberculosis in the army. The view held seemed to be for the most part, that the health of the soldier undergoes deterioration as the result of his military service such that he who enters with an inactive or concealed tuberculosis might be expected to develop an active and serious form of the disease. Many papers were written which took this alarmist view and recommended that the extremest care be expended in examinations with a view to the elimination from the army of all those who exhibited the slightest signs even of old and completely healed tuberculosis. The assumption here evidently was that the soldiers had been submitted to an examination adequate to detect all active forms of the disease, so that tuberculosis, if found to exist at a later time, must have developed as a result of army service. Unfortunately, however, those conversant with the facts were willing, however reluctantly, to admit that this was not necessarily the case, that given the hurry and confusion of hasty enlistments and the varying skill of examiners, it was quite possible that some men, even many men with tuberculous disease, might be admitted as sound into the ranks of the army. The existence of tuberculosis in the army is, therefore, by no means necessarily evil in that army life in itself favors the development of the disease.

We have, then, two views to consider: first, army life per se exercises an unfavorable effect upon healed tuberculosis lesions and awakens active tuberculosis very easily so that the tuberculosis of the soldier develops as an active disease after entrance into the army and in the persons of those who were practically well at the time of such entrance. Second, the tuberculous soldier brought his tuberculosis with him into the army in an inactive stage. He should have been excluded on the entrance examination, but was not, the active disease was there from the outset and the progressive nature of the affection which finally led to its detection was only what might have been ex-

pected when a sick man was subjected to fatigue and exposure.

Which of these two views is the correct one? The answer must be neither one is absolutely correct. Some men will develop tuberculosis though apparently free of the disease when examined for admission. The first view has, therefore, something in its favor. But the percentage of such cases, what is called the unavoidable percentage, is very small. Measures adopted to forestall such developments are useless, because the cases can not be detected in advance, and moreover, harmful because tending to the exclusion of many men perfectly fit to become soldiers. Practically we may say that if an army develops much tuberculosis this is due to the fact that the men brought with them the disease in an active form when they came in from civil life. The remedy then is evidently an examination which shall be efficient enough to exclude manifest cases of tuberculosis, but which shall not regard the old and circumscribed evidences of slight impairment of the pulmonary integrity. It was an examination of this kind which was instituted and carried out upon our troops during the fall and winter of 1917, the examinations, however, not being completed until the spring of 1918. 930,000 men in round numbers were examined and 7,500 cases of tuberculosis were detected as the result of this examination. It is not claimed that this examination was perfect. Some cases, no doubt, were overlooked that should have been detected and some were excluded from the army who were perfectly able to serve. Mistakes must occur when large numbers of examiners go hastily over enormous numbers of soldiers. But the aim was to get rid of as many cases of manifest tuberculosis as could be detected in an examination so rapidly performed as not to interfere too much with the all-important training of the troops, rather than to delay matters by seeking a perfection which was unattainable under the difficult conditions. That 7,500 cases of tuberculosis were removed is a cause for satisfaction. However, many cases may ultimately develop, it is at least certain that the total is less by 7,500 cases than it would have been if there had been no re-examination.

The army is a good field for the study of some problems. The conditions of life are comparatively simple and the large numbers



concerned give a value to the statistics greater than those derived from the much smaller number of cases available, as a rule, for study in civil life. Unexpected light has been thrown upon the questions which we have just considered by the experience of the French Army. As you may recall, the distinguished French physician, Landouzy, announced that 86,000 French soldiers had been invalided on account of tuberculosis in the first year of the war. This announcement was received with dismay in this country. It served as a text for the pessimist and seemed to warrant gloomy forebodings as to the fate of our own soldiers. But new light has recently been thrown upon this subject. The French minister of war has reported that of this 86,000 men considerably less than one-half have been found upon revision to have tuberculosis. And there are not wanting those who claim that of this fraction a very considerable percentage has really no active disease, so that of the 86,000 barely 20 per cent are really tuberculous. And here is an important fact: Landouzy himself states that as a rule those who were found to have an active tuberculosis had brought the disease with them into the army. We have thus an unexpected corroboration on a large scale of the view expressed above. Army life is not especially favorable for the development of tuberculosis. Those soldiers who enter as sound men have every reason to expect that they will not develop tuberculosis as a result of their army experiences.

Another fact brought out by the war is worthy of note in this connection. We are accustomed to hear the view expressed without contradiction that chronic semi-starvation necessarily develops tuberculosis in a large number of its victims. Consequently we were all prepared to expect an enormous incidence of tuberculosis among the half-starved French prisoners of war in Germany. The Swiss doctors predicted that 30 per cent would become tuberculous. But experience shows that while in some groups the percentage of tuberculosis has been considerable, in others the percentage in those returned is extremely small. According to recent advices, among 175,000 French prisoners of war the percentage of the tuberculous was only 6-10 of 1 per cent! This remarkable showing seems to prove that even under the most favorable conditions a life in the open air prevents tuberculosis from exercising a dangerous sway.

We have reached the conclusion that a serious incidence of tuberculosis upon the army would mean that tuberculous men had been admitted to it. The fact would discredit the professional expertness of the army surgeon rather than the hygiene and health conditions of the army service. An important lesson may be drawn from this fact which may serve to quiet some anxieties.

We are often told that tuberculosis will develop under the conditions of army life and that there is danger of the disease being communicated from the sick to the well, that each tuberculous man is a potential source of infection to those around him, that consequently he should be isolated at once and eliminated from the hospitals of the mobile army at the earliest possible moment. I have sometimes thought that the ease with which the program of examination of the enormous masses of men of the army was put through—appalling task as it seemed at first sight—was to be explained by the prevalence of the notion—we must be rid of the consumptive—not so much because he is a weak link in the chain, not because he occupies a place that should be filled by a fighting man—but because he will spread disease among the well. There has been some advantage in this idea if it has enabled the useful work of re-examination for tuberculosis to be carried out. But though this advantage has been reaped, it is certainly time to revise our notions as to the contagiousness of tuberculosis. Everybody knows that doctors and nurses labor for years in closest contact with the consumptive, yet it is rare for them to develop tuberculosis in their own persons and we have all seen many a delicate wife or mother nurse dying husband or son without contracting the disease. We have to admit that many are immune, however great their exposure. But on the other hand, there are cases in which both husband and wife have consumption, or in which those who occupy the same room or work at the same bench with a consumptive finally are found to be themselves infected. We do not stop to think that with a disease as common as tuberculosis it must frequently happen that cases of the disease will develop simultaneously without being derived one from the other, that a man who had or was going to have consumption might marry a wife doomed in advance to the same fate, or that if conditions of health, food, ventilation, etc., were bad enough to break down the health

Dr. Parsons donors

of one worker, they might be bad enough to have the same result with his neighbor. We do not stop to think of these possibilities, but instead we say: consumption is contagious and the proof of this fact is that our neighbor died of consumption and his wife caught it from him, the man who worked next to the consumptive in my factory has got the disease from him, etc. A great deal of perfectly preventable distress has been due to the alarmist's attitude toward the question of contagion of tuberculosis. The really cruel persecution of the consumptive, who is driven from his house and from his position through the fear that he will infect others is based upon what I must characterize as highly exaggerated notions of the danger of such infection. All must admit that some are immune to infection: the question is are there others who are readily infected and is this class a numerous one? The prevailing view is that the danger is so great as to justify the most stringent measures to abate it. A few with whom I must class myself believe that the danger is very small, so far as infection from adult to adult is concerned, and really demands preventive measures only in the case of young children.

I wish that time would permit me to set forth in detail the scientific reasons on which this opinion is based, but that is impossible. I must content myself with inviting your attention again to the declaration of Landouzy. Years have elapsed since his 86,000 consumptives were weeded out of the French Army. There has been time enough to judge of the end-results of their presence in the ranks and on sober second thought the decision is reached—the consumptive brought the disease with him into the service. There appears no evidence that the disease developed, at all events, frequently, after entrance of the soldier into the army. Consequently we draw the conclusion that the disease could not have been communicated to any considerable extent, to say the least, from one soldier to another. Here is an experiment on a large scale; thousands of consumptives were put in closest contact with millions of healthy men and the result after three years is that it can not be shown that such proximity did the well men any harm!

We may, therefore, be reassured as to our army, so far as fear of spreading the contagion of tuberculosis is concerned. The sol-

dier who enters the service in good health runs very little risk of acquiring tuberculosis from association with his fellows. There is, however, unfortunately a darker side to the picture which we in our zeal for the whole truth must not overlook, namely the relation of measles to tuberculosis. Wherever large bodies of men are brought together, measles seem to break out. The disease is relatively insignificant when it seeks to attack the city dwellers. Most of them have already had measles and are immune. Not so among the country boys. Regiments made up of men from the farms have been severely tried. Many have died of pneumonia following measles and in some tuberculosis has developed as a sequel, showing the strange relationship that exists between the two diseases. In order to develop the facts and to lose no time in the treatment, orders have been given that all soldiers who have had measles shall be examined twice at intervals of a month to ascertain whether or not tuberculosis has developed. It has been found as a result of these examinations that of 5,945 cases of measles reported as examined 173 have developed an active tuberculosis, or 2.91 per cent. Here it is not a question of the transmission of tuberculosis from one to another, but of the awakening of a latent tuberculosis as a result of the infection with measles. It should be added that it is probable that the number of really tuberculous cases is less than the above figures would indicate, that some of these cases classed as tuberculous are rather cases of as yet unresolved pneumonia, but on the other hand, no doubt all cases of tuberculosis reactivated by measles have not yet been detected. Here, again, is an experiment on a large scale, which we will hope will prove in the end to have resulted more favorably than the facts now available would seem to indicate.

Tuberculosis having been found to be present in an active form in a given case, what shall be done with the soldier? The answer that many have given is retain him in the service and "reconstruct him." Many brains have been actively engaged in plans for reconstruction hospitals and workshops and for apparatus to be used in the work. The term has been most employed by the surgeon. It includes the restoration to function or the teaching of new function of maimed extremities, the recovery of some degree



of comeliness in faces with horrid deformities from wounds, exercise to keep or regain the activities of wounded nerve or muscle, which as soon as possible is obtained through some useful form of labor, and the teaching of new trades suited to the altered capacity of the worker, sometimes even the development of unsuspected abilities to do more excellent and better paid work than the man has ever done in his days of health.

The wounded man who has been reconstructed in the widest sense has been made over to some extent both physically and mentally and consequently we may hope is morally aided as well. This is certainly a noble aim, yet if we judge from the results in similar work abroad, one that we may reasonably hope to attain if our efforts are wisely guided.

As applied to tuberculosis, however, the problem of reconstruction, while it is simpler, is yet really more difficult than it is in surgical cases. Here there is no question of repair to injuries; the tuberculous soldier has all his members intact. But whereas in surgical cases the effort is to set the patient at work at the earliest possible moment, in tuberculosis our aim must be at first to keep the patient still, to prevent him not only from working, but even from moving about. And it may be necessary to continue him in this state of inertia for many months in some cases, if good and permanent results are to be attained. All the preconceived ideas of the patient and in many cases the restlessness characteristic of the weakened nervous system of the consumptive militate against the notion that prolonged rest in bed is needful or even desirable. To be successful in carrying out such treatment, it is necessary to instruct and to persuade. The physician must have faith in the treatment and a real interest in the patient's welfare if good results are to be attained. Not only does the physician study the patient, the patient studies the physician as well. In his daily visits the physician is weighed and judged. The patient soon knows whether the physician really believes what he says, whether he really cares to cure, or whether on the other hand, his words of admonition and counsel are merely the perfunctory words of an official paid to perform a task in which he has no real interest. The physician must, therefore, have zeal in his work and a persuasiveness which

succeeds because based on a true desire to help and a belief in the efficiency of the means employed to cure. But more than that he must be well grounded in the pathology of tuberculosis and be able to teach the patient from such a fullness of knowledge that it inspires faith in his teachings. The tuberculosis hospital or sanatorium should be a school for the education of the patient in the right way to live. But where a course of life extending over years is the thing taught, it is necessary that the patient shall know the reasons for the precepts given him. The *ipse dixit* of the physician may suffice for the moment. Its effect will fade in years to come. The facts upon which the treatment of tuberculosis are based are not difficult of comprehension unless beclouded by a technical vocabulary which the patient can not understand. Explain to him the reasons in a simple language, convince him of your interest in his welfare and in many cases you will make a convert.

Some of the patients, however, will not be convinced, will not do well under treatment and may seek an early discharge because restless and unhappy. A better result is not necessarily attained among those presumably more easily taught because more educated and of higher intelligence. Docility of the patient is one of the most important prerequisites of success in treatment and a certain percentage will always be found indocile. In those who submit with good grace to the treatment, the danger exists on the other hand that the enforced idleness may become demoralizing, that having become accustomed to a life of repose the patient will shrink from the idea of resuming a life of labor, and when the time for work has come will demand his discharge in preference to undergoing a course of instruction, though that be calculated to fit him in the end for more and better work than he has ever before accomplished. The methods of instruction mentioned a moment ago are, in my judgment, the ideal methods. It can hardly be expected that the results attained by all physicians with the hundreds, if not thousands of such patients will reach these ideals, and even the best instructed and most docile, when they pass from under the influence of their physician will be tempted to stray from the course of life prescribed or become restless and desire a change of scene.

The old pension system was demoralizing to a certain type of men in that it enabled the pensioner to live without work. Fortunately by the act that created the Bureau of War Risks, it is provided that those who serve in the present war will not be subject to the pen- laws, but will have a compensation in case of injury or disease which will be determined by the War Risk Board. Now if this compensation is arranged so that he who remains in the service will be better paid than one who receives discharge and returns to his home, it will be possible to retain the patients in the military service and under treatment. If this is not arranged I believe that the majority of the patients will in the end seek discharge, and if they desire discharge they must be given it. In this event the program of reconstruction will be carried out but partially and imperfectly. I wish to emphasize the conviction gained by many years of experience with this class of soldiers that unless it is made pecuniarily profitable to remain in the service, the majority of the tuberculous will sooner or later prefer to be discharged and return to their homes rather than to submit to a course of treatment, even though this treatment aims at and often succeeds in effecting a permanent cure. The heart of the philanthropist glows at the thought that a generous nation is willing to keep on its payroll soldiers who can never again fight on its behalf, that it expends large sums in providing means by which these unfortunates may be cured of their disease and trained to work, or if the conflict goes against them, may be furnished an asylum in which they can spend their last days in peace. But if we are to practice philanthropy successfully, we must know the world as it is, not as we could wish it to be. These patients are not as a rule philosophers and sages. They know little or nothing of the treatment of tuberculosis nor of the results which are to be expected from it, nor of the way in which such results may be obtained. Yet many of them prefer to follow their own judgment rather than listen to advice. Such men pass quickly from an unfounded optimism to its opposite, an equally unfounded pessimism. They wish to go home today, because they are doing very well and they can pursue the treatment to equal advantage there. Tomorrow, perhaps, they will say that it is of no use to persist in the treatment; that they are not gaining in

health and that they might as well go to their home and get such pleasure as they can from what remains to them of life. And not only the weaknesses, the best emotions of the human heart are enrolled on the side of the opposition. The love of the patient for his family, the yearning of the wife or of the mother for the husband or son, are so many cords drawing him away from what we conceive to be the path of duty. We can not blame him if he yields; only the careless or the recreant could be insensible to such pleadings. Yet they are the voice of the siren, nevertheless, enticing him to renounce a future good for a present enjoyment. The real love for wife or mother would say: "You are dear to me and, therefore, I can not come. I love you so much that I must stay and try to save my life for your sake. I must forget you in the present in order that I may enjoy you during a long future." There is a wisdom and a moral heroism in such a resolve which commands our respect. Would that we could affirm that so heroic a determination is invariably rewarded by the success it deserves. It is sometimes a bitter thought to the physician who has persuaded the patient to stay, that he has been responsible for keeping a patient uselessly under treatment and of thus depriving him of the loving care that friends would have lavished upon him if they had been allowed the chance. Here the only consolation is the thought that so far as could be determined at the time, the decision made was the correct decision even though the result was ultimately disaster and that the unfortunate patient gave a better proof of his affection by remaining to fight than if through weakness he had given up the conflict. But what an incentive for the physician such an event is, to give the best efforts of which he is capable in order to understand, so far as fallible man can, the nature of the disease he is seeking to combat!

The philanthropist himself is sometimes inclined to interpose with benevolent motives to ask for action which is really to the prejudice of the patient. Thus a priest implored the hospital management in the name of God to release a patient who lived in comfort in the balmy air of the Southwest in order that he might go in the dead of winter to a bleak district of the North and to a humble home destitute of all suitable accommodations for a sick man.



Now that we are speaking of the philanthropist may I be pardoned for a slight digression? It is this: A surprising feature in many interested in philanthropy is their apparent lack of civic conscience. It is the fashion today to spend money with a lavish hand for all sorts of good things, perhaps sometimes to spend more than the goodness of the thing really warrants. When the reaction comes and taxes grow irksome, as they become more familiar, there will be a day of accounting and in that day the size of the pension list, or more accurately the list of those entitled under the present law to compensation will be one of the numerous things which will be severely criticized. The regular army officer brought up in an economical school has striven to diminish as much as in him lay, the size of this list by seeking to exclude from it those who had entered the army, through some oversight of the examining officer, with tuberculosis contracted long before, a condition, therefore, for which army service could not justly be held accountable. This laudable effort to help the future taxpayer has, however, met with the most strenuous opposition on the part of various philanthropists, many of the ladies, who are quite sure that though the man whose cause they champion had been in the army but a month before his disease was discovered, and though that disease was of the most chronic type, who are quite sure, I say, that the poor man had been perfectly well until he left his home and entered the army and that the exposure of army life had certainly been the cause of all his troubles and that the government should without any doubt be required to support him.

Even the philanthropic life has its drawbacks, as you will admit. How different is reality to the dreams of the unthinkingly benevolent in which all the good is on one side and all the bad is on the other, and it is perfectly easy to determine what the proper course is! However, such considerations should not discourage philanthropy, but rather inspire caution in the practice of it. Philanthropy can only be truly benevolent and altogether beneficial when those who would benefit their fellow men are willing to make an exhaustive study of the conditions.

Physicians are constantly seeking new and infallible means of diagnosing disease. Very often a discovery is heralded as a means

of establishing a certain diagnosis in some morbid state. But almost always after the first enthusiasm abates it is found that after all, there are exceptions. The new sign or reaction is not absolutely pathognomonic. There never will be a time when a physician can practice his profession with scientific success without the use of all his brains and all his acumen. And it is very much the same way with philanthropy. Measures which seem beneficial may produce evils. What is best for one class at one place may not be best for all classes at all places. There is no easy way of always deciding what it is best to do.

It is a pleasure, therefore, to be able to point out one philanthropic measure which is too much neglected for other measures really of much less importance, yet with regard to which there can be no doubt that it is a long step in the direction of abating the scourge of tuberculosis. I refer to the prevention of tuberculosis infection among young children. I have expressed a doubt as to the seriousness of the danger of infection for the adult who has already come into contact with the tubercle bacillus; there is no question, however, that so far as the young child is concerned, where there is virgin soil for the tuberculous infection, tuberculosis is as infectious as measles. It must needs be in civilization that infection with tuberculosis comes sooner or later to all, but it is important that the infection shall not come too early in life and of the utmost importance that when it does come the size of the infection shall be small and that it be not frequently repeated.

Another measure of perhaps equal importance is the enforcement of the best conditions of hygiene as respects fresh air and sunlight and food for the growing child in order that it may have strength to master the small infection and convert it into a beneficent vaccination instead of permitting it to grow till it becomes a life-long menace and too frequently a source of death. It can not be pointed out too often that in spite of our neglect of elementary precautions, the majority of our population nevertheless succeed in obtaining unconsciously that beneficent vaccination so that no matter what the exposure, they do not acquire a clinical tuberculosis. What we must do by our philanthropy is to devise means whereby the unfortunate third or fourth of our race who

are now not so successful in their struggle against the enemy may be enabled to join the more fortunate majority until the percentage of active tuberculosis becomes reduced to an insignificant fraction and finally vanishes entirely. Given wise philanthropy which persists in its endeavors, this is no Utopian dream. **Whether tuberculosis as a menace and a drain upon society shall be eradicated or not depends upon the care which shall be extended to the coming generations of children still unborn.** To abolish the slums, to improve the housing conditions, in general, of the poor, to teach proper cookery, proper selection of foods and the benefits of fresh air, sunlight and cleanliness is to hasten the advance of sanitation along the road on which progress has already been made from generation to generation. Tuberculosis is already slowly diminishing in prevalence as a manifest disease in most countries. We can do much, however, to hasten its disappearance by our organized philanthropy, if wisely directed. Yet all these means will fail to attain what we could wish unless we add one additional measure, the segregation of the infant from sources of contagion. The French have seen the light more distinctly than other nations. In France the formula is: either remove the young child from the presence of the consumptive or the consumptive from his family, if there are young children. The child must by all means be prevented from receiving the massive infections which it is sure to get if it lives with the coughing consumptive.

Here is a definite program, but what a difficult one! For against it are all the impulses of the most sacred affection, the love of parents for their children. This brings us back to the consumptive soldier. At the beginning of the war it was recommended that the tuberculous should be returned to the vicinity of their homes for treatment in order that they might visit their families or that their families might visit them. This I call unthinking philanthropy. Often it is true such visits might do no harm, but the distinction between harmless and harmful is not clearly made, the new baby will infallibly be brought along for the father to see it, unless education is vigorously instituted in advance of the father's return. What an advantage for the children if the father can not come home to them! How much higher

the moral elevation of the man who is taught to sacrifice his paternal yearnings to the best interests of his children, than that of him who can not consent to live without his family! There is much to be effected in this direction by careful instruction of the consumptive and of the adult members of his family. But what shall be done with the minority of the careless and the willful—those who can not or will not understand, the weaklings who are ready to sacrifice the welfare of their infants to their own selfish longings? Shall they be restrained by the hand of the law or shall their children be taken from them to be cared for in public institutions? The French say yes. What shall we say when the question must be met? Do we recognize sufficiently that true philanthropy sometimes hides behind a mask of sternness?

Nothing could be finer than the spirit of our people in these sad times. Nearly all are anxious to help in some way, feel that they must do something for their country. Sometimes there is the regret on the part of those who must stay at home that there are not more numerous ways in which they can do something really useful and sacrifice their ease and pleasure to some good purpose in the cause of patriotism. Intelligent co-operation in the care and management of the wounded and sick soldiers and in providing for their families is one of the directions in which the energies of the charitable can find an outlet. I bespeak your interest and sympathy for that peculiarly unfortunate class, the consumptive soldiers and their families. Would that I could hope that my words today have thrown some light upon the difficult problems which must be met in the sociological study of the tuberculous and in practical benevolence as extended to them. It is commonly remarked that this terrible and gigantic war has changed the world. We shall never again be the same people. The moral uplift of the present is unmistakable. We are willing to sacrifice ourselves now for our country. May we not hope that this patriotic devotion, this moral uplift will continue after the war has ended?

We are willing to get together to labor in unison for our soldiers, we are willing to work at hard tasks, without compensation oftentimes, in order that the business of the country may co-operate to the best advantage with the fighting force. Why should



not this organized effort continue after the war? Our country is no less our beloved country because peace has come. Why should we not put our team-work in which we are now so experienced at the disposal of the noble cause of philanthropy, see that the poor are not oppressed, know what goes on in our jails, our asylums, our workhouses, elevate the submerged fraction of the population and abate the causes of disease and accident?

His army experience is but an episode in the life of the tuberculous soldier. He, as a rule, owed his tuberculosis to the conditions of civil life before he entered the army. **The tuberculosis of the army merges into that of the whole population.** The great problem of tuberculosis will remain after our army has laid down its arms as one that calls for all our efforts, yet is, we may confidently believe, a problem for which in time we can, we must, find a triumphant solution.

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### **SOME PRINCIPLES INVOLVING THE TREATMENT OF INFECTED WOUNDS.\***

**By Major Joseph C. Bloodgood.**

Mr. President and Gentlemen: I will speak to you in regard to the endeavor in my own mind, from observation and reading, to test some of the things that we might call the principles underlying the treatment of infected wounds. Speaking of the surgeons who go into the army, you have all been informed that you meet some new problems and you meet them in different environments than at home. You have a great deal more to do than to get a commission; a great deal more to do than to get military training, and you have a great deal more to do than to listen to lectures. If you want to help in solving this problem you have to do some hard work and thinking on your own part. This is true in every department of medicine. In the army, as you will hear from Colonel Bushnell, there is the great problem of tuberculosis. The solution of that problem depends upon the diagnostic ability of the men who examine the chests of these soldiers. As Colonel

Bushnell will tell you, the prevalent idea that tuberculosis is common in the army is due to a mistaken diagnosis; cases are diagnosed tuberculosis that are not tuberculosis. A mistaken diagnosis of tuberculosis in the army means a great deal more than in peace times. At the present time in the camps the great problem is pneumonia—an infection for which we have as yet no cure or preventive treatment.

The great surgical problem of the camp is the treatment of empyema—an entirely different kind of empyema than we have had in civil practice. Empyema is a rare surgical operation in civil practice—it is a common operation in our camps today. The mortality from empyema in civil practice is less than 10 per cent; the mortality in the army is over 20 per cent. It is important for the surgeons in the camp to concentrate and study and find out why the mortality is so high. We know that it is a different type of infection; it is not a pneumococcus, but a hemolytic streptococcus.

I could go on telling you how we are meeting new problems—perhaps not new problems, but we are meeting problems that are new because they are forced upon our attention by the great number of cases. In civil practice today the majority of surgery is clean surgery, and since the introduction of gloves and since 1900 the majority of surgeons have not been worried by their wounds breaking down. You would be surprised to know that Dr. Halstead asserted in his first three years the percentage of breakdowns in hernia was 24 per cent. I investigated our treatment of wounds and since the introduction of gloves we ran almost two hundred hernias without a breakdown, apparently due chiefly to the introduction of gloves. In industrial accidents in this country—and I can speak positively, because I have been corresponding since 1914 with over nine hundred industrial surgeons—the infection of the wound is relatively insignificant compared to the infection of wounds in war surgery today. In the first place the character of the wound is not as extensive. In the second place the organisms present in the environment where the men work are not of such number and virulence as the organisms in the environment of the soldier in the trench.

That is wonderfully demonstrated in the difference in healing of wounds of the acci-

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\*Read at meeting of Medical Association of Georgia, Savannah, Ga., 1918.

Authors desiring reprints must notify Phoenix Printing Company, Augusta, Ga., within 15 days after publication. Prices of reprints published in this issue.

dent type and the wounds in the trenches. The interval of time before the treatment of the wound in war surgery. So that perhaps there may be no new problem in the treatment of wounds in war, but we are called upon to treat them as a daily task, where in the past it was a weekly or monthly task. The medical books on surgery have not carried on the knowledge already gained by our predecessors who are now most of them dead. Read the works of our surgeons who had experience in the Civil War, and read the works of the old military surgeons before the antiseptic day, and you will really learn more in regard to the principles of the treatment of infected wounds than you will gain from the modern book on surgery.

Now irrespective of the character of the wound and irrespective of the bacteriology, there are certain things on which we all agree now, and one is rest, exemplified most beautifully in the surgeon who cuts his finger and gets a little infection and stops operating and keeps it at rest and quiet and has no further trouble. The surgeon who cuts his finger and is careless and keeps on operating, and keeps it constantly irritated, and in a few days he is in a position where it is a question of life and limb—and the only difference is rest. That is the essential feature in the treatment of almost any condition that is pathological—rest—local rest and rest of the individual. If there were no organisms rest would not be so essential, but as there are organisms the object of rest is to help the tissues to combat these organisms, and no matter how you may feel towards the surgery of an infected wound, the surgeon relatively does very little. The individual and his tissues do most. We can see that in infections over which we have no control. Pneumonia is an infection of the lungs—we do not operate on it and it gets well. Typhoid fever is an infection or the result of the infection or the result of an infectious bacilli everywhere and it gets well. Erysipelas is a streptococcus infection for which we have no surgery, and it usually recovers, the recovery being due to our own ability to combat infection. Therefore, we must not forget when we see a wound locally that we must do all we can for the individual and the tissues to combat the disease, we must constantly bear in mind that we are not treating the wound, but the individual.

The most important element in regard to the way tissues combat organisms is the circulation in this tissue. Dead tissue has no resistance to organism; dead tissue is a medium for organism; dead tissue is a handicap to the surrounding living tissue in its combat of the organism. This is beautifully illustrated in what many of you do not see now as often as in the beginning of surgery, a stitch abscess from silk. Close a wound with silk and it heals apparently all right, but in a few days or a week, or a month, the patient comes back with an abscess. You open it, but the sinus remains and whether you fish for it or do not, whether you clean the sinus or do not it remains open, when suddenly a black spot comes out of the sinus, and whether you treat it or not the sinus heals. The organisms must be there in just as great number before the silk is discharged as afterwards, but when everything bad is discharged the sinus heals. Therefore, in your application of any dressing to an extremity you must not only bear in mind rest, but to do nothing that interferes with the circulation.

And what splints have we come back to? Splints that were not to be had in any hospital in this country. We have come back to the Civil War splint, to the Balkan frame, to the principle of the Smith anterior splint and many others, because the wound must be dressed daily and if we have to rebandage it every time there is the discomfort in lifting the limb for rebandaging, the danger of making the bandage too tight and that interferes not only with the rest of the individual, but with the rest of the leg, so we have come to elevate the limb, to swing the limb in these old-fashioned splints, because they furnish the rest which is best for the circulation in the limb.

We may say that we all agree that infected wounds should be opened and dressed. These are very simple words—rest, good circulation, open wounds. You may know all these, but every wound is different. The same wound may be different in different individuals, and there is no rule of thumb that will tell you to apply rest, circulation, open wound and drainage to these tissues. You must constantly look into the minutest details. What was the word from France, from the pioneers who first went over in the beginning—Blake, Cushing and Payne—that in the treatment of infected wounds the most important thing was surgical judgment.

What was the second report sent—that war surgery was ward surgery. You know what the ordinary surgeons do—they operate and the work is finished on the operating table. In war surgery the work only begins on the operating table, and it does not end until the wound is healed.

No wthese principles of rest and good circulation and open wound and drainage were well established in the days when all wounds were infected, and with thoroughly good results. But you must remember that in those days wounds were of an entirely different character than the wounds of this war. The wounds of previous wars were bullet wounds and stab wounds, and they were infected after the surgeon saw them, not before. It was Ambroise Pare who called attention to the poisons after a great battle and whose chagrin was to find that those that had not been treated were in better condition and more men were living than those that had been treated. Lister's success with an application of carbolic acid to a compound fracture, although attributed to the carbolic acid exclusion of air, was due to the fact that he did not finger the compound fracture before he put on the acid. If he had probably the birth of antiseptic surgery would have miscarried. In 1870, Lister wrote to the German and French surgeons not to probe wounds with their fingers, but to apply carbolic acid. They only read the application of carbolic acid in the way of an antiseptic, and did not pay attention to the essential feature. It was laid down as a rule in the French and German armies in 1870 that every wound must be examined by the surgeon's finger, which, of course, was dirtier than the mud of the French trenches. So the surgeons in previous wars became very expert in treating the wounds that they had infected. With the outbreak of this war we thought because we had learned not to infect wounds, that our first-aid dressings and our iodine would protect every soldier, and so it does with a bullet wound. Bullet wounds behave just the same as they did in the Spanish War, but bullet wounds are conspicuous by their absence. Now we have huge shell wounds. What is the difference between a bullet wound and a shell wound? The bullet wound is clean cut and carries with it as a rule no foreign body. The bullet passes out and there is very little dead tissue; if you let the wound alone it will take care of

itself. Now what is a shell wound? Whether there is a small wound or a large one at the entrance the ragged piece in its revolutions tears the tissue, and there is foreign body there and dead tissue as well as the piece of the shell that may remain in. It generally carries in with it some of the clothes and I can not help but call your attention to the statement of Sir B——— W———, that the shell often carries with it mud and that a shell wound with an opening no larger than an inch or two on the thigh, when you open that you may find a cavity running from the buttocks to the popliteal space, in which you can put your arm and that cavity is plugged with the mud of Flanders as though it had been injected with paste.

Another thing we have forgotten in connection with infected wounds, and that is the direction in which purulent material gravitates and how it extends. We have had to pay no attention to the fascia planes in operating upon a compound fracture of the femur, because they were not infected. It did not make any difference whether you had ever heard of the fascia planes of the thigh if you knew how to make a clean wound and plate the bone. But when you have an infetced wound of the thigh if you do not know the anatomy of the fascia planes you can not follow the rule of open wound and perfect drainage. That is illustrated probably best in a book usually read, but not understood, the work of Canavel on the fascia planes of the hand.

I would advise you, therefore, as surgeons to read all that you can that is already in the literature on the principles of treating infected wounds. Read the Carrell book, read Lister on compound fractures in 1864; read the older surgeons on the treatment of infected wounds; learn the different kinds of splints that are illustrated in the book on "Orthopedics in the War" published by Lea and Febiger; learn them until you can put them on as you put on your shoes. Those of you who are yachtsmen and understand pulleys and making knots will find yourselves far ahead of your colleagues when you come to the adjustment of these swinging splints and the overhead so-called Balkan frame, which is the Civil War frame. You do not realize the mechanics in the application of these splints and in the adjustment of these pulleys for instance. They look complicated, so does an automobile, and I feel sure that



the American surgeons that have taken to the automobiles will take to the mechanical side of the splint. The whole problem of rest and comfort and circulation depends upon the mechanical application of that splint. You must learn this, but how many of the audience who have read about these splints have tried to learn them. Do not wait until you get to the army. The younger men who go nearer these firing zones should become blacksmiths and learn how to make out of a piece of wire any of these splints. You will be taught by Major Allen at Fort Oglethorpe that from a coil of wire that you can put on your back and that is easy to carry you can make splints for almost fifty men, and you can make a Thomas splint in ten minutes. These are things you must learn as surgeons. You must be a mechanic—an entirely different sort of thing from peace practice.

Now the application of this knowledge to the treatment of infected wounds varies with where you treat the wound. There is a wrong idea in this country that every surgeon wants to be in a base hospital. Frankly, gentlemen, the base hospital is for "lame ducks." The young, vigorous men must be nearer the front and if the young vigorous men near the front do what they should do the "lame ducks" will have plenty of leisure. Base hospital work to a large extent is due to incorrect work in the zone of advance. It may be dangerous to be with the regiment, but that is the place of preventive surgery, because the regimental surgeon controls his collection of the wounded. The first application to that wound of gauze, the first adjustment of the splint in which that man must be transferred, and this judgment in selecting the men who must be transferred first and the men who must not be transferred may seem very little when we think of peace surgery, and the surgeon may think that it is beneath the dignity of his wonderful university training, but the fact of the matter is that the soldier's life and limbs depend more upon that regimental dressing and that transportation than upon anything else. We all know that a very inferior surgeon may remove a clean appendix if it is diagnosed by a superior surgeon; while a very superior surgeon can not do a clean operation for appendicitis if the earlier stages have been overlooked by an inferior surgeon. So we must get this to the young-

er men, the men who are physically resourceful, who have guts, that the place for them is with the regiment. It is the great place for the surgeons and not only for the surgeons, but for the physicians, because the men in the trenches are under the care of doctors and there are many important things you can do for them even if it is only the proper opening of a blister of the great toe or the application of an adhesive strip to the trigger finger—you are saving a fighting man for the trenches by that little thing. A blister on the trigger finger may incapacitate a man temporarily from fighting just as much as a bullet wound in the abdomen.

You must read Tarnowsky's book, "The Profession of Surgery in the Advanced Zone." The French surgeons saw that if they could add anything to the comfort of the fighting men the morale of the men was improved. First they go back from these regimental posts or evacuation hospitals and there the chief problem is that of transportation. Do you realize that this transportation is under the control of medical officers? Your judgment and resourcefulness and courage will make that transportation rapid and comfortable. During the transportation to these evacuation hospitals some cases may have to be taken out for redressing or emergency surgery, but the object is to get them back. The first hospital where it is possible to give the soldiers an antiseptic and do an operation under proper care and keep him for a short time is the real primary dressing of the wound. Up to that time it is a simple occlusion dressing, a fixation, and transportation in the shortest space of time and the most comfortable way. Here again the question of judgment comes in. There are three stages of infected wounds—the stage of contamination where the organisms are there, but have not gone beyond the surface of the wound; such wounds can be completely excised and closed, but it requires great judgment as to the extent a wound should be closed. Then comes the stage of infection, a longer period of reaction. Here you excise, you break down the barrier that the tissue has made—perhaps a better barrier than you can make, but when tissues have made that barrier and destroy it these tissues are more or less exhausted and the second barrier will not be as rapid or as perfect. The wound should be opened, the surface cleansed, foreign

bodies removed, dead tissues removed, especially muscle, to prevent gas infection. Here comes the judgment as to when to excise in the early stage and when not to excise, and how to get rid of the foreign bodies, a blood clot or a dead tissue without destroying that barrier that nature has formed. Then some wounds come into the stage of phlegmonous inflammation. If it is a gas bacillus you operate; if it is not you do not operate. You can see where judgment comes in. Then if you have decided to open the wound there is the application of drainage that will drain away from the infected area. One spot may destroy the entire result. You may put in 17 tubes and yet the 18th is the most important, which you overlook.

The discussion in regards to an antiseptic has to a large extent been harmful because it has taken the minds of the surgeons off of the basic principles. Gentlemen, we have no antiseptic to substitute for the surgeon's judgment and resourcefulness and his knowledge of rest and good circulation, when to excise and when not to excise and how to drain. If you do that well the difference in what antiseptic you use and how you apply it does not influence the result very much—providing, gentlemen, you do not have too much faith in the antiseptic. With an open wound, infected, the most important thing is to keep it clean and in keeping it clean you dress it in such a way that you do not give discomfort to the patient, do not interfere with the position of the limb, and do not reinfect the wound. You must remember that as you dress the wound daily that as the weeks go by it is most difficult to keep up that perfect technique. You get careless, and an organism may be introduced which will cause the patient to go through the whole thing again. How many have seen a wound granulating and ready to close, and then after the surgeon has dressed it there is a temperature, a red area and erysipelas takes place, and there is a secondary infection. So I beg that you will not allow this discussion in regard to what antiseptic to use to take your attention from attempting in every way to acquaint yourselves with these principles and learn how to put on these splints, learn the application of these pulleys for the overhead, so that when you go into war surgery and are given an opportunity you will be able to look after the smallest details—unless you can get some-

body better than you are to do it. (Applause.)

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### FRIDAY MORNING SESSION.

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**Major Seale Harris:** As I said last night it was a great pleasure to be with you again, and before taking up my paper I thought it might be of interest to many of you who are considering the question of entering the Medical Reserve Corps to know something of the Surgeon General's office. The Surgeon General, of course, is not able to attend to all of the details that come into the office, and when you consider the fact that on one day there were fifteen thousand telegrams sent and received in that office, you will understand that he could not send them all. While every telegram that goes out is signed by General Gorgas, at the same time he knows nothing of a great many of them. The only way for a man to handle an organization as big as the Medical Corps of the Army is to select heads of the different departments and divide the work into what they call divisions. The Surgeon General selects a man he thinks is fitted for that particular work and leaves the work very largely to the man in charge of that division. For instance, there is the Personnel Division, and this division decides the rank a man shall have and also on the physical disabilities of the applicants for admission to the Medical Reserve Corps. Colonel Noble is the head of this. Surgery is in three divisions; General Surgery in charge of Colonel Moncreith, and associated with him, William and Charles Mayo and Colonel Bloodgood—simply as advisors. The Division of Brain Surgery is under Colonel Lister, and Orthopedic Surgery under Colonel Bracker. Then there is Neurology, Psychiatry, Eye, Ear, Nose and Throat, the Division of Internal Medicine, of which Colonel Burke is the head; that is also divided into sections, cardiovascular diseases, of which Colonel Janeway was at the head, succeeded by Colonel Longcope; the Division of Tuberculosis, of which Colonel Bushnell has charge and then there is the section on Gastro-enterology, and that is the only mistake I have known the Surgeon General to make in the selection of the man in charge of that work—but I have forgiven him for that.



I would say this, confidentially, not ex-cathedra or officially—that if any of you are fitted for any special line of work and desire to go into that line of work, you should write a letter to the Surgeon General stating your qualifications and stating what division you wish to enter and the work you desire to do. I would advise you, too, that it is perfectly right to do that, and the Surgeon General will consider the requests of the men as far as possible.

Of course, it is not always possible to consider the wishes of every man, but they do the best they can. It is wonderful the organization that has been built up.

In other words, the life in the army is actually curing a great many cases of indigestion. I had a man recently from Birmingham, who was drafted and did not care to go in as a private. I had treated him and he came to Washington to get me to give him a certificate saying that he was fit for army service. I told him that the army was the best place for him, that it would cure that indigestion and that the best thing he could do was to go into the army. I presume he did so. So if any of your patients have digestive trouble and think the army life might make them worse, they should be sent in. No form of digestive disease except lactic ulcer and carcinoma should exclude any man from the army, and I think the examining board should follow that plan and send the men and let this group of specialists in the hospitals decide whether they should stay.

Of course, there are a great many other problems that will be studied by these men. On the other side the work has not been developed as yet. I have discussed the matter with British and French officers on duty at the Surgeon General's office, but I hope and expect to go to the other side soon and see what they are doing over there. I thank you. (Applause.)

**Dr. F. T. Rogers (Savannah, Ga.)** I would like to ask how many of this 33 gastro-enterologists they have? I understood you to say that they needed 33, but you did not say that they had 33. What portion have they?

**Major Seale Harris:** There are 33 base hospitals, each with a capacity of from one to two thousand beds. There is a ward in each of these base hospitals in charge of a gastro-enterologist. There are only about

three vacancies now. There would not have been any vacancies had it not been that two or three of the men had fallen out on account of physical disability.

**Dr. F. M. Martin (—):** How about cases of mucous colitis and how are they treated?

**Major Seale Harris:** The question of mucous colitis cases will be taken up with the idea of getting a report from these cases. I think the treatment will reveal a great majority of cases of mucous colitis. So far as the treatment is concerned the majority get well under proper treatment in civil life, where it is so nearly associated with neurasthenia and functional nervous disorder. But given the diet and exercise and the regularity of living and all that, my opinion is that the life of the soldier will really cure a great many of these cases.

**Dr. J. T. Rogers (Atlanta, Ga.):** How much physical training does a physician in a base hospital have to undergo? Is it strenuous—is it anything like the training that the soldier has to undergo?

**Major Seale Harris:** The physical side of the work of the hospital, of course, is of interest. It varies in different hospitals. Ordinarily in the majority of cases, the specialists are assigned to the hospital without going through the officers' training school at Camp Greenleaf or Fort Oglethorpe. They do, however, have military drills from a half hour to an hour—the whole medical corps. There will be three to four hundred doctors in one of these camps, and taking a division of from thirty to forty men it would mean that there would be about three hundred doctors in that group. They have some drilling every day; the ordinary setting up exercises, marching and that sort of thing.

**The President:** The Chair will state for the information of Dr. Rogers or any other members that may be interested, that any doctor will get ample physical exercise to keep him in reasonably good trim, but not sufficient to impose any insuperable hardship on any one who goes into the service.

**Col. C. K. Morgan:** The general subject on which I propose to say a few words may be described as "the part that the medical profession can play during the present crisis."

2. I think you will agree that army medical work is not a subject which lends itself easily to brief description and consideration.



3. Consequently in the comparatively short space of time for which it is desirable to detain you, I do not propose even to attempt to do more than make a few general remarks.

4. The main object of the medical service of the British armies in the field is the same as that of the rest of the components of those armies. It is the same also as that which, from what I have read, and from what I have observed for myself since I have arrived, seems to be now animating practically every individual in this great country. In other words, the object of the medical service of the British armies, as also of your own, is to help to win the war.

5. Less than 150 years ago the military view of what medical men could do to help to win a war was very far from attractive. They were looked upon by Army Commanders simply as useful, but by no means essential camp followers. It was only very slowly that their status altered, but the change fortunately now is quite complete. Every Army Commander now knows that a well organized and efficient medical service is essential for the success of his military operations. It is agreed in short that medical men both can and should help to win a war by employing any means which circumstances render possible, and which medical science can suggest; firstly, by the prevention of disease, and secondly, by the most scientific application of the science of art of medicine and surgery. It is also agreed that it is the right and duty of army medical men to seize any opportunities that may present themselves for adding to the general store of scientific knowledge in regard to the remedying of injuries, and the discovery and obviation of the causes of disease, in the hope that in this way something may be done toward converting present losses into future gains.

6. I think you will agree with me, gentlemen, that the duties thus allotted to the medical profession are of such a kind as amply to meet both its scientific and its humanitarian aspirations. You will agree with me also that it is up to us to endeavor to justify to the full the assignment of so noble a role as that here indicated.

7. There are, however, comparatively few medical men who can play a really effective part in this great task unless they first readjust their habitual viewpoint toward their

work. If you take medical men in the mass, you will see that their outlook is as a rule essentially individualistic. As civilians many of us are accustomed to deal with any given case of sickness or injury right through from its beginning to its end. We are accustomed likewise to regard every instance of injury and illness as strictly personal to the sufferer concerned. We do this to such an extent that it is often what we believe to be the patient's interest, and none other, that we ever consider.

8. If you look, however, at the aims of medicine as a whole, I think you will agree that these are not individualistic but communal. In other words, the real aim of medicine, of medicine with a capital "M," is less to promote the well being of the individual than that of the State as a whole, and that we, who are the servants of medicine, devote our attentions to individuals merely because it is individuals aggregated together who form the State itself.

9. I have dwelt somewhat fully on this communal view of medicine because it is certain that unless a medical man, working in the army, keeps it constantly in the foreground of his mind, he will be liable to be annoyed by a belief that his abilities are not being duly appreciated, and that there is an antagonism between military claims and his natural medical instincts.

10. What he must realize is, firstly, that he is no longer a private practitioner, but a simple cog wheel in a vast machine, secondly, that he is no longer dealing with patients whose smallest fancy he is bound to consult, but with men who are morally of a totally different class from his former patients. They are not living in "dugouts" for the benefit of their health. They do not go "over the top" in the hope of saving their lives, and if required, they would be the first to tell you that, if he endeavors to distinguish their interests from those of the army to which they belong, he will be making a big mistake.

11. If his work allows him to move about at all, and thus see more than one section of the general enterprise, it may not be long before he recognizes the truth of this statement for himself. In other words, he will perceive that the arrangements of an army medical department are now so interlocked and elaborate that the treatment of a soldier who is sick or injured could hardly be im-

proved if he were still a citizen, and in the hands of one of you here in Savannah.

12. On the other hand, it may take the medical officer drawn from civil life much longer to realize that the duties that seem to him far below his real capacity, are really worth his very best efforts. The military medical machine is in fact so huge that only by careful study can a man ever hope to understand its working, and how much its success depends on the conscientious performance by individuals of apparently unimportant tasks. It is quite true that these tasks are often far below the abilities of the men performing them, but this is inevitable.

13. One of the great needs in an army medical service is for medical men who can and will perform a large variety of simple tasks efficiently, and for men who understand team work, and whose sole aim is to help, however humbly, to make the work of their team successful, and not to gain glory for themselves.

14. Apart, however, from these men whom one might designate the general duty surgeons, there is, if we are to justify the confidence placed in us by the army and the public, the need for surgeons and physicians of great experience and in the highest ranks of the profession. So far as the British service is concerned, we are lucky in having in all our theaters of war, and remember we have armies fighting in six different parts of the World, many of the foremost teachers and consultants of Great Britain, acting in an advisory and consultant capacity not only with the actual field armies, but at all our bases. I speak especially for France where I was from October of 1914 to the end of last year. Men like Makins, now the president of our Royal College of Surgeons; Bowlby, Moynahan, whom you had for some time in this country; Herringham, Rose Bradford, Cuthbert Wallace and many others whom I could name, in the foremost ranks of their profession as surgeons or physicians in Great Britain.

15. Then there are the men, who, to my mind, have "the plums" of the profession in an army, namely, the men who do the eolar work of surgery in our casualty clearing stations and base hospitals. Who are these men? Well, they are chiefly the surgeons on the staffs of our great civil hospitals in England, Scotland and Ireland, the great clinical

teachers in our medical schools. What could give our officers, non-commissioned officers and men greater confidence than to know that if wounded they will fall into the hands of men of this stamp—their fathers, mothers and sisters know it too, and I feel sure that the mothers and sisters of the boys from this great country will have every reason to repose the same confidence in the men whom you have already sent and will undoubtedly send to France.

16. Time prevents my giving you an outline of the fashion in which the general work of our medical organization is carried out. I might, however, say a few words about the wonderful institution which we call a casualty clearing station, and which corresponds to the evacuation hospital in your organization. It is to these units that all sick and wounded requiring hospital treatment are collected from the more advanced field units, and are treated before evacuation to the base hospitals. Casualty clearing stations are allotted to armies in the proportion of one per infantry division and the more advanced ones located within ten to twelve thousand yards from the front trenches. In the early days of the war, these units were staffed and equipped to deal with only 200 cases each, and their primary function was to act as pivots on which casualties converged from armies, and from which they were evacuated with as little delay as possible to base hospitals. Only the more urgent cases were here operated upon. Their present status is very different. Each is now capable of accommodating 1,000 cases. Whether their habitations be buildings, huts or tents or all three, they are true hospitals in every sense of the word, provided like the best civil hospitals in towns with thoroughly equipped operating rooms, X-ray outfits, bacteriological laboratories, and every other facility for good work that modern scientific knowledge can suggest. I think the reason for this change is the fact that the soil in Northern France and Flanders has been highly manured and intensively cultivated for very many years, and it is found that wounds there received are infested by dangerous organisms at the very moment of their infliction. It is found also that these organisms are so ground into the tissues that they cannot be neutralized by any process less radical than the excision of the injured parts. The earlier this is done, the better. In fact, unless it is done within

the first 24 hours or so, suppuration, if not that exceedingly dangerous condition known as gas gangrene is almost certain to ensue. It is also found that many cases of intestinal wounds which would have otherwise certainly proved fatal, can be saved by early operation. Likewise the chances of men who have received shell wounds of the chest and lungs are materially improved if their wounds are at once treated on practically the same lines as flesh wounds in more easily accessible situations. That is why so much surgical work is now done at our casualty clearing stations. Why every endeavor is made to perform these radical operations on as large a proportion as possible of all the cases that reach them. In what are known as "peace times" that is to say, when no very heavy fighting is in progress, the proportion may be as much as 100 per cent. When, however, casualties arrive, not in two's or three's, but in many hundreds each day, many have to be evacuated to the base hospitals without operation. Nevertheless, the number of general anesthetic operations the surgical staff of a casualty clearing station will contrive to perform is amazing. This is done by training every single person employed in the general work as carefully in his precise duties as if he were a member of a baseball team. When a big "straff" is expected additional and equally well trained men are attached to every casualty clearing station behind the section of the front where the offensive is anticipated. These reinforcements are obtained not only from the Base Hospitals, and they go, not as individuals, but as surgical teams. Operating staffs of all casualty clearing stations and Base Hospitals are organized in teams, each team consisting of a skilled surgeon and an anesthetist, a theatre sister, and a theatre orderly, all accustomed to working hand in hand. They are ready at all times to move by motor transport within half an hour of receipt of a telephone message from general headquarters, and they take with them portable equipment for their work.

I need not go into details regarding the organization of the surgical work at the casualty clearing stations, but it is so arranged that the maximum effort is got out of the surgical staff.

The surgeons of these teams, as well as the whole of the staff, must be men fit for

hard work and long hours, as they get little rest during periods of intensive battles—when within a period of two or three days during a big fight as many as forty to fifty thousand wounded men pass through the casualty clearing stations. I should like to mention that during the battle in Flanders last year surgical teams were also drawn from the six American hospitals of the United States Army now working for the British troops, and right nobly did they perform their tasks and thoroughly justified the reputation that the American medical profession enjoys. Amongst others of your countrymen I saw Major Harvey Cushing with his team at work on head cases in a casualty clearing station on the Flanders front not a great many months ago, and I fancy even he did more cases in a space of forty-eight hours than he ever did in as many days in civil life. It is the same in all the branches of war surgery. The majority of the able-bodied members of the profession in England are nobly "doing their bit," and they will have an easy answer when their children say, "Daddy, what did you do in the great war."

17. The spirit of our armies is splendid, and can best be illustrated by the reply which a Scotchman gave to me not long ago when he reached a casualty clearing station with a shattered arm. I asked him if he were badly hit; he said, "Man, Doctor, it was grand; how long do you think it will be before I can get back?"

18. Gentlemen, for a good many months now it has been our privilege to have serving with us in addition to the staffs of the six hospitals I mentioned, a large number of your army medical officers, and it is needless to say that the greatest camaraderie exists between us, and I know many lasting friendships have been and will be made. These medical men have joined our army not only to help along the great cause, but also to learn something of the work that has to be done. Like our own surgeons they have learned that the surgery of warfare is in many respects totally different from surgery in civil life. They have been observing our existing methods and we have endeavored to make them fully acquainted with our previous mistakes. This being the case, I have not the slightest doubt that when they join their own forces they will find they have learned so much from us



that it will be our turn to learn from them. If so, we shall be only too pleased.

19. One word of warning. Medical men sometimes join our armies expecting to perform great tasks every hour of the day. This is a mistake. There are moments, I am thankful to say, when absolutely necessary work is exceedingly slack. On the other hand, there is never any moment when an army medical officer who takes a real interest in his profession can not employ his energies usefully. Medical war work as a whole has been aptly described in the following terms: "War is a hopeless monotony interrupted by periods of hell." In the former periods there must always be too many medical officers, and in the latter, there can never be enough.

20. I should like to say a few words on the strictly professional side of our work.

A good deal of research work has been carried on in our laboratories and by individual groups of clinicians, and in one way and another we have learnt a great deal. Furthermore much that we have learnt is not only useful now, but will be beneficial hereafter.

21. We have for instance gained an exhaustive knowledge of para-typhoid "A," and para-typhoid "B," and are able to protect our men against both these groups. The enteric group accounted for 0.06 per cent of all cases in hospitals in the United Kingdom in December, 1917. You will recall the ravages of this group in your war with Spain and in our South African war. When I left France we had from three to six cases per week in an army of over two million men.

22. Fever of an indeterminate character is the cause of a very large proportion of the sickness of our army. For every case of enteric fever there are probably twenty in which there is no evidence, clinical or bacteriological, of any form of enteric, or of any of the other known fevers. There are three types of these fevers, but the commonest one, known for want of a better name as "Trench Fever," is a relapsing fever. It has been proved that the *causa causans* is carried in the blood stream and is transmissible from man to man, and latest reports indicate that the case against the louse is growing. A special committee to which some of your countrymen have re-

cently been added is now engaged in working out its ultimate etiology.

23. On the surgical side **Tetanus** we no longer count among the horrors of war. In the first two months of the war it was found that the incidence of tetanus among the wounded was much higher than had been anticipated from the experience of recent campaigns. It is now clear that this was chiefly due to two causes, the greater severity of the wounds, and the heavier contamination of the soil. Antitoxin is, therefore, given at the earliest opportunity to every wounded man, no matter how trivial the injury might appear to be. The results have been excellent, and now the incidence of this grave disease has been kept within very narrow limits. Apart from wounds classed as "battle casualties" there are naturally a great number of accidental injuries and tetanus was very prevalent amongst them, especially in the case of those whose injury was so slight that they did not report sick. All such cases now receive anti-tetanic serum.

There is still another class of case which requires similar precautions. I refer to the condition known as "trench foot." Tetanus occurred rather freely amongst them until it was recognized that the degree of devitalization of the tissues afforded good opportunities for the development of tetanus spores. Skin lesions are not a *sine qua non* for infection so that all cases of trench foot receive serum just as battle casualties do.

24. The fears entertained at one time that anaphylactic shock might result in the case of men wounded for a second time who had previously had an injection of antitoxin have proved sufficiently groundless to warrant the usual procedure being followed in such cases.

25. "**Gas Gangrene**" is still a cause of considerable mortality, but surgeons no longer feel helpless in its presence. It is chiefly a disease of the muscles although it is met with in other tissues and even in the brain. No muscle wound, however trivial can be treated with impunity. At the same time surgeons agree that no bacterial infection can be so easily eradicated by surgical measures. It is now largely eliminated by early operation in the advanced area and this is done by thorough mechanical cleaning of the wound and complete removal of all muscle

which does not contract or bleed or is altered in color. Certain muscles may require removal in their entirety. By this means a limb may be saved at the expense of a muscle or even a group of muscles which would have been sacrificed if eropitation and tympanitis had been taken as the criterion of the extent of the disease.

26. We have also greatly increased our previous knowledge of the pathology and treatment of **traumatic shock**. It used to be believed that the lowered blood pressure was due to the blood stagnating in the abdominal viscerae. The patient, it used to be said, bled into his own belly. Recent observations show that most wounded men in a state of shock suffer in a more or less degree from a reduced alkalinity of the blood—the condition commonly known as “acidosis.” Accompanied with this is a rapid falling in the blood pressure. It has also been shown that operation on, or the administration of an anaesthetic to, a man with reduced alkalinity of the blood is fraught with danger, because it leads to a further fall in blood pressure and in the alkalinity of the blood.

In this research one of your countrymen, Major Cammon, is taking a prominent part.

The practical result is that we now take greatly increased pains to protect casualties from cold on their way down from the front to the casualty clearing stations. At all clearing stations there is what is generally called a “resurrection ward” in which shock patients are appropriately treated before operation.

27. A few words in conclusion about **wounds of the abdomen**. In the early days of the war an expectant attitude was adopted—rest, opium and abstinence from food. It soon became evident that the great majority of those who were wounded in the intestines died, and it also became clear from post-mortem examination both that the injuries inflicted by either bullets or shell fragments were so extensive that repair and recovery could not be expected without operation, and also that very many patients died from hemorrhage which might have been arrested by the surgeon. Arrangements were, therefore, made to permit of the successful performance of large numbers of abdominal operations at the front. The custom in the British Army is to operate if a

diagnosis of probable injury to the gastrointestinal tract is made, except in cases where the patient is obviously dying, or else where he is not brought to an operating center until thirty-six hours or more have elapsed since the wound was received. After this time it has been found that the chances of recovery are better without operation. The best results are obtained when not more than eight or nine hours have elapsed since the receipt of the injury. After ten hours have elapsed the mortality rapidly increases and after eighteen hours the percentage of recoveries becomes very small.

I can not give statistics for the whole British Army, but the following figures will show the results obtained in certain areas.

In one area during a period of two years, of 1,605 operations, 47.1 per cent recovered.

In another out of 856 patients operated upon 416 recovered and 450 died, i. e., about 49 per cent recovered.

In yet another of 111 operative cases 67 recovered and 44 died, a recovery rate of 60.4 per cent.

The cases I quote were all cases which an operation proved to have one or more lesions of the gastro-intestinal tract. I think you will agree that this branch of military surgery shows a creditable improvement since the commencement of the war. Gentlemen, it is the same in other branches—chest surgery, brain surgery in which your countryman, Major Harvey Cushing, has done so much, the treatment of fractures, etc., have all been greatly modified since July, 1914.

28. I am sorry I am not at liberty to give you figures of the casualties suffered by the British nation, but I can tell you how our medical service in France has suffered and the figures will show you that the self-sacrifice of our profession has been as noble as the cause for which they have laid down their lives. There are at present approximately 4,050 officers of the Royal Army Medical Corps in France. Since the commencement of the war to January, 1918, 309 have been killed and 959 wounded. The members of our overseas medical service have suffered in like proportion.

29. The Allies are now withstanding the greatest onslaught of the war, but I feel confident that the line will remain unbroken.

The British nation receives the greatest comfort in the knowledge that your boys are now fighting shoulder to shoulder with ours, and together with the indomitable French Army, we will teach the Hun that his slavish adherence to military despotism will end in his undoing.

LaGrange, Ga., Apr'l 22, 1918.

At the annual meeting of the Association of Municipal, County, and State Health Officers, held at the city hall, Savannah, Ga., on Wednesday evening, April 17, 1918, the following officers were elected: Dr. M. M. McCord, of Rome, Commissioner of Health of Floyd County, President, and Dr. M. F. Haygood, Director of Sanitation of Troup County, LaGrange, Ga., Secretary.

The next meeting will be held in Atlanta (with the state meeting).

(Special.)—It has come to the notice of this office that many people fail to report suspicious and disloyal acts or manifestations of sympathy for the enemy, because of uncertainty as to the proper official to approach.

It is very important that the Government should have the assistance of all citizens in detecting enemy propaganda or suspicious activities of individuals, and you will do a service in notifying your friends that any communication addressed to "Intelligence Officer, Headquarters Southeastern Department, Charleston, S. C.," will receive attention and be transmitted to the proper official of the Government for investigation. The names of informants will not be divulged and there need be no fear, on the part of

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# THE JOURNAL

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## Medical Association of Georgia

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NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

## MINUTES MEDICAL ASSOCIATION OF GEORGIA.

The sixty-ninth meeting of the Medical Association of Georgia was called to order at 10:30, Wednesday morning, April 17, 1918, by the President, Major E. E. Murphey, of Augusta.

Invocation by Rev. William N. Ainsworth.

Address of welcome on behalf of the city of Savannah, Hon. W. J. Pierpont, mayor of Savannah.

Address of welcome on behalf of local profession, Dr. H. H. Martin, Savannah.

Response to addresses of welcome, Dr. W. S. Goldsmith, Atlanta.

The report of the House of Delegates was made by the Secretary, Major W. C. Lyle, who reported that the House of Delegates had convened and accepted the reports of

the Committee on Arrangements and of the Program Committee.

The scientific part of the program was opened by Dr. Frances M. Bradley, Tifton, Ga., who read a paper on "Children's Work in War Time." This paper was discussed by Drs. T. F. Abercrombie, Brunswick; A. G. Fort, Tifton; T. J. Charlton, Savannah; W. A. Mulherin, Augusta; M. M. McCord, Rome; A. L. R. Avant, Savannah; J. G. Dean, Dawson, and Frances S. Bradley, Tifton.

Dr. J. L. Campbell, Atlanta, read a paper on "The Value of a Commission for the Study and Control of Cancer."

Dr. George R. White, Savannah, read a paper on "The Control of Cancer." These two papers were discussed by Drs. J. H. Hall, Atlanta; Major C. C. Harrold, Macon; E. H. Jones, Atlanta; H. M. Lokey, Atlanta; R. E. Hinman, Atlanta; L. S. Hardin, Atlanta; E. B. Block, Atlanta, and J. L. Campbell, Atlanta.

Dr. Garnett W. Quillian, Atlanta, read a paper entitled "Ectopic Pregnancy, With Specimen of Urine; Unruptured." This paper was discussed by Drs. E. B. Block, Atlanta; F. W. McRae, Atlanta; J. L. Campbell, Atlanta; W. A. Selman, Atlanta, and Garnett W. Quillian.

Dr. R. C. Woodard, Adel, read a paper on "Caesarian Section—A Midget." This paper was discussed by Drs. A. G. Fort, Tifton; F. W. McRae, Atlanta; R. Lattimore, Savannah, and R. C. Woodard, Adel.

Dr. W. L. Funkhouser, Atlanta, read a paper on "A Plea for the Conservation of Human Milk." Discussed by Drs. W. A. Mulherin, Augusta; E. B. Block, Atlanta; Frances S. Bradley, Tifton; L. B. Clark, Atlanta, and Dr. W. L. Funkhouser, Atlanta.

Dr. W. A. Mulherin, Augusta, read a paper entitled "Babies, Malaria and Quinine." This paper was discussed by Drs. W. L. Funkhouser, Atlanta; L. B. Clark, Atlanta, and W. A. Mulherin, Augusta.

Adjournment until 3 o'clock.

### Wednesday Afternoon Session.

The Wednesday afternoon session was called to order at 3 o'clock by the President.

Dr. St. Joseph B. Graham, Atlanta, read a paper entitled "Collo Cell. A New Surgical Dressing and Drainage. A Radical Departure in Surgical Dressings. A Demonstration." Discussed by Drs. ——— Mayer,

Atlanta; A. B. Little, Thomasville, and Dr. Graham in closing.

Dr. W. S. Goldsmith, Atlanta, read a paper on "Goiter. End Results in Seventy Operated Cases." Discussed by Dr. E. H. Jones, Atlanta, and W. S. Goldsmith, Atlanta.

Dr. J. T. Rogers, Savannah, read a paper entitled "Diagnosis and Treatment of Gastric Ulcer." This paper was discussed by Drs. E. H. Jones, Atlanta; E. C. Thrash, Atlanta; E. B. Block, Atlanta; J. W. Lanham, Atlanta; J. L. Campbell, Atlanta; St. J. B. Graham, Atlanta; W. A. Selman, Atlanta; W. A. Cole, Savannah, and J. T. Rogers, Savannah.

Dr. A. D. Little, Thomasville, read a paper entitled "An Operation—Unique—Having Been Performed but Once." There was no discussion of this paper.

Dr. E. C. Thrash, Atlanta, read a paper on "Recent Clinical Laboratory Developments." There was no discussion of this paper.

Dr. W. L. Champion, Atlanta, read a paper on "Prostatectomy." Discussed by Drs. W. S. Goldsmith, Atlanta; E. P. Merritt, Atlanta; H. Y. Righton, Savannah; George R. White, Savannah, and W. L. Champion, Atlanta.

Dr. A. B. Mason, Waycross, read a paper on "Earache and Deafness." Discussed by Drs. H. M. Lokey, Atlanta; Dunbar Roy, Atlanta; J. T. Maxwell, Savannah, and A. B. Mason, Waycross.

Dr. A. L. R. Avant, Savannah, read a paper entitled "Vital Statistics." Discussed by Drs. T. F. Abercrombie, Atlanta; M. F. Haygood, LaGrange, and A. L. R. Avant, Savannah.

Adjournment until 8:30.

### Wednesday Evening Session.

The Wednesday evening session was called to order at 9 o'clock by the President.

Dr. H. H. Martin, Savannah, read a paper on "Direct Alcoholization of the Sensory Root of the Fifth Nerve in the Treatment of the Doloureux." Lantern slide demonstration. There was no discussion of this paper.

Dr. T. P. Waring, Savannah, read a paper entitled "Papillomata of Gall Bladder and a Case of Anastomosis of Biliary Sinus to Intestine." Lantern slide demonstration. There was no discussion of this paper.

Dr. E. D. Highsmith, Atlanta, read a paper on "Plastic and Cosmetic Surgery." Lan-

tern demonstration. This paper was discussed by Drs. W. A. Selman, Atlanta; J. L. Campbell, Atlanta, and E. D. Highsmith, Atlanta.

Dr. W. A. Cole, Savannah, read a paper on "Roentgen Diagnosis in Cases of Empyema Simulating Other Diseases." Lantern slides. This paper was discussed by Drs. C. C. Harrold, Macon; E. E. Murphey, Augusta, and A. J. Mooney, Statesboro.

Dr. Walter Norton, Savannah, read a paper on "Laparotomy of the Knee Joint." This paper was discussed by Drs. T. P. Waring, Savannah; C. C. Harrold, Macon; St. J. B. Graham, Atlanta; H. H. Martin, Savannah, and Walter Norton, Savannah.

Adjournment.

### Thursday Morning Session.

The Thursday morning session was called to order at 9:20 by the President.

Report of the House of Delegates. Moved by Dr. Dunbar Roy, seconded by Dr. Elrod, that the report be adopted. Motion carried.

Dr. Charles Usher, Savannah, read a paper on "A New Incision for the Surgery of the Gall Bladder and Duct." There was no discussion on this paper.

Dr. J. W. Palmer, Ailey, read a paper on "Treatment of Lobar Pneumonia." This paper was discussed by Drs. T. J. McArthur, Cordele; E. C. Thrash, Atlanta.

Dr. S. T. R. Revell, Louisville, read a paper entitled "Ten Years' Experience in the Treatment of Pneumonia." This paper was discussed by Drs. E. E. Murphey, Augusta; St. Joseph B. Graham, Atlanta; E. C. Thrash, Atlanta; J. O. Elrod, Forsyth and S. T. R. Revell, Louisville.

Dr. Dunbar Roy, Atlanta, read a paper entitled "Some Interesting Nasal Cases, Probably Due to Syphilis." This paper was discussed by Drs. W. E. McCurry, Hartwell; M. M. Stapler, Macon; E. S. Osborne, Savannah, and Dunbar Roy, Atlanta.

At this time the President read a telegram of greeting from the Southern Medical Association; also one from the South Carolina Medical Association. The Secretary was authorized to send telegrams of greeting in return.

Dr. E. G. Jones, Atlanta, read a paper entitled "The Tragic Complications of Stomach and Duodenal Ulcers." This paper was



discussed by Drs. J. T. Rogers, Savannah; C. C. Harrold, Macon; F. W. McRae, Atlanta; J. L. Campbell, Atlanta; Walter Norton, Savannah; J. W. Lanham, Atlanta, and E. H. Jones, Atlanta.

At this time the President delivered his address. This address was discussed by Drs. F. W. McRae, Atlanta; A. L. R. Avant, Savannah; C. C. Harrold, Macon, and T. J. McArthur, Cordele.

Dr. T. J. McArthur moved that the Association rise as an expression of their appreciation of the work of President Wilson.

Adjournment until 3 o'clock.

#### Thursday Afternoon Session.

The Thursday afternoon session was called to order at 3:10 by the President.

Dr. A. J. Waring, Savannah, read a paper entitled "Acidosis Associated With Infections of the Air Passages. A Clinical Report of Forty Cases." This paper was discussed by Drs. W. A. Mulherin, Augusta; L. B. Clark, Atlanta, and A. J. Waring, Savannah.

At this time Dr. A. G. Little introduced the following resolution:

Resolved: That the Medical Association of Georgia heartily indorse the principles of the Owen and Dyer bills giving advanced rank to medical officers according to the rank of the Medical Corps of the navy; also that the Secretary of this Association send a copy of this resolution to the President of the United States, to the Vice-President, to the Secretary of War, to Senator Chamberlain and to Congressman Dent; also that each member of this Association send a letter or telegram to his representatives in congress and to the two Georgia senators, asking them to approve this bill.

Dr. Little moved the adoption of this resolution and the motion was seconded by E. B. Block, of Atlanta. This resolution was discussed by Drs. E. B. Block, Atlanta; R. C. Woodard, Adel; St. Joseph B. Graham, Atlanta, and J. L. Campbell, Atlanta. Dr. Campbell moved to amend this motion that every member of the Georgia Medical Association to write to his representative in congress and to the two Georgia senators, asking them to support this bill.

The amended motion was carried.

Dr. Lewis M. Gaines, Atlanta, read a paper on "Mental Disturbances Caused by Syphilis." This paper was discussed by Drs. George L. Echols, Milledgeville; E. S. Os-

borne, Savannah; W. B. Emery, Atlanta, and Lewis M. Gaines, Atlanta.

Dr. Elton S. Osborne, Savannah, read a paper on "Internal Glandular Secretions in Relation to the Eye." There was no discussion on this paper.

Dr. C. W. Roberts, Atlanta, read a paper on "The Proper Role of Surgery in Digestive Disturbances With Illustrated Cases." This paper was discussed by Drs. J. T. Rogers, Savannah; Walter Norton, Savannah; F. P. Norman, Greenville, and C. W. Roberts, Savannah.

Dr. W. B. Emery, Atlanta, read a paper entitled "The Syphilis Clinic of Emory University, Atlanta, Ga." This paper was discussed by Drs. St. Joseph B. Graham, Atlanta; H. Y. Righton, Savannah; Lewis M. Gaines, Atlanta; C. B. Manning, Atlanta; E. P. Merritt, Atlanta; George L. Echols, Milledgeville; Walter Norton, Savannah, and W. M. Emery, Atlanta.

Dr. E. P. Merritt, Atlanta, read a paper on "Ureteral Stones"—Their Removal by Aid of the Operating Cystoscope. Report of Cases." This paper was discussed by Drs. H. Y. Righton, Savannah; C. B. Manning, Atlanta; W. E. McCurry, Hartwell; W. B. Emery, Atlanta, and E. P. Merritt, Atlanta.

Adjournment until 9:30 Friday morning.

#### Friday Morning Session.

The Friday morning session was called to order at 10:15 by the President.

Major Seale Harris, Medical Reserve Corps, United States Army, read a paper entitled "Gastro-Intestinal Diseases in the Army." This paper was discussed by Dr. J. T. Rogers, Savannah.

Major Joseph C. Bloodgood, Medical Reserve Corps, United States Army, made an address on "Some Principles Involving the Treatment of Infected Wounds."

Major McLean read a paper by Colonel C. K. Morgan, Medical Service, British Army, on "British Army Organization for the Evacuation of Sick and Wounded."

Colonel George E. Bushnell, Medical Corps, United States Army, read a paper on "Tuberculosis in the Army."

Dr. J. T. Maxwell, Savannah, read a paper on "Demonstration of the Surgical Anatomy of the Accessory Sinuses of the Nose." This paper was discussed by Dr. W. A. Cole, Savannah.

Final adjournment.

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OF THE

## Medical Association of Georgia



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Editorial and Business Office, 1122-1123-1124 Lamar Building.

Subscription Price, \$1.00

Entered as second-class matter, Aug. 4, 1911, at the Post Office at Augusta, Ga., under the Act of Mar. 3, 1879.

VOL. VIII.

AUGUSTA, GA., JUNE, 1918

No. 2

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## PRESIDENT'S ADDRESS.\*

By Major E. E. Murphy, Augusta, Ga.

Gentlemen of the Medical Association of Georgia: In happier times I have sat where you sit now and listened to the President's address and have thought how charming a thing it must be to have for fifteen or twenty or thirty minutes this great body at one's disposal, where it must listen to what one has to say, with no fear of subsequent discussion or contravention—to be able to air one's theories and forward one's aims in regard to matters which touch upon the development of this great association; to reach back into one's dictionary and choose the choicest words and parade them before you for your entertainment, for your amusement if need be. Gentlemen, the time for rounded period and sonorous phrase is past. We are gathered today to solemnly, earnestly, yea, even prayerfully take stock of what we, as an

organization are doing for our country in this crisis, what we as individuals can do; to measure how far we have fallen short of the best and to make the best certain within the next year or two, so far as lies within our power to do. (Applause).

When, after so long a time the sodden fields of Flanders once more smile beneath her waving flowers, when her people have begun to forget the horrors that have been, we will turn our minds back in contemplation to this hour and to the hours which lie before us. Many great reputations have crumbled in the dust of the crucible of events; many more will go. We have had criticism of department, criticism of individual, criticism of policies over and over again already, because the country is impatient of inefficiency, is impatient of delay; but until now there has been no criticism of the organized Medical Profession of this country. (Applause). The Surgeon General has not been on the carpet; the Medical Reserve Corps has not been on the carpet; the Medical Corps of the Army has not been on the carpet. In these days when all is ceaseless hustle, change and activity the Medical

\*Read at meeting of Medical Association of Georgia, Savannah, Ga., 1918.

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Department of the Army and its affiliated organizations have delivered the goods until now. (Applause). This moment is a justification of the work of the last decade in every State in the Union. There has been some criticism in the years gone by of the attempt which has been made to carry through to successful organization the physicians of this country in a concrete whole, laboring for humanity, for the advancement of professional ideals and the improvement of everything which made for the status of the physician to build him up into what the best men in the profession knew the physician should be; but when our country went to war the organized medical profession of this country came forward and said: "Here we are—organized and eard indexed and ready; command us." And they have done it. (Applause).

But every man may not go into the service. We used to feel that we served our country by serving humanity. So far as lies within our power we feel today that we serve humanity by serving our country. Five hundred men from this association have gone into the Medical Reserve Corps of the Army or the Navy. The call is for more men yet and the call will continue to be, not for more men, but more men and more men until this devil-born beast which threatens us across the sea shall be swept back to the mad house from whence he came. (Applause).

But we cannot all go into the service. It is not well, it is not wise that we should. There are duties, there are responsibilities, there are things to be done at home just as valuable as the things which may be done on any battle front or at any Base Hospital of the world, and it is to call to your attention—you who are not in the service and cannot come in for one reason or another—the necessity of doing at home the things that ought to be done as well as the man at the front is doing his work there, that I am before you today. Correlation between those members of the profession who have gone and those that remain, must be closer than ever in the past. We have talked of professional fraternity and brotherhood—and we meant it. Now is the time when the things we meant are put to the test. In every town and city in the State of Georgia men have gone forth to the front, men who have given up their life, who have given up the ease and security of their home—for what?

To make the things which make life sweet to us more enduring. Those of us who remain behind owe to them the simple debt of furthering their interests so far as lies within our power. In fact that has been done to a most gratifying extent; that it will continue, we all know.

What can those who remain at home do? We can do this. We can pay greater attention to the necessary legislation. That was brought before us yesterday, a most timely thing to have brought before us. We can see that the v ital statistie law is no longer a dead letter written into the books and then forgotten. We can see that it is a vital thing and operative. We can see that the medical activity of the State is carried on as it was carried on before. We can urge greater consideration for the medical profession, and more than that we must realize that every one of us has to do two or three times the work we used to do in the old days of peace. Out of my own town 42 per cent of the physicians have gone. (Applause). The men who remain are working day and night. Out of every town in Georgia before this war is over 50 to 60 per cent of men are going—they are going because they are needed and could not do otherwise, but the men who are left are going to work and work and work as never before.

In these days medical thought is changing more rapidly than at any previous time in the history of the world. Never before has so vast a lot of clinical material been available for study, and what is more important, never has that clinical material been under control to the extent that it is now, consequently statistics are piling up and accumulating rapidly, being observed, digested, mulled over, and weighed in the office of the Surgeon General and redistributed to the profession at large and the result will be when this war is over, in spite of all it cost us, in spite of all the dollars and blood and tears which humanity has had to pay. The next three or four years will bring results to the medical profession, which could not otherwise be accomplished in a half a century because of the control. Preconceived notions, fixed opinions, old praetiees are being tried out as never before, and they go into the dust heap like any other discarded machinery if they do not work. Surgical procedures and practices believed in—gone. Medical lines of thought adhered to—gone—



they do not stand under the pressure. But out of it all are coming new and valid facts, which will be of infinite value to humanity in years to come. The opportunities for observation are infinite. We used to think of cases of pneumonia in terms of hundreds, of cases of measles in hundreds. We used to think we had had experience if in any one year we had one hundred cases of pneumonia to deal with. Why, gentlemen, every man in every Base Hospital in the country has as many cases of contagious and infectious disease, and as many serious problems to control and study in any one day as was formerly his lot in a year. To illustrate, perhaps a concrete example will show just what I have in mind. At Camp Wheeler, not long ago, I was talking to a very charming and somewhat whimsical gentlemen who had charge of the cases of mumps in the camp. I said to him, "Dr. you are learning quite a good deal about mumps," and with never a flicker of his eye he replied, "Sir, I know more about mumps than any man in the world." I said, "That is a comprehensive statement." "Comprehensive," he said, but true. In the last six months I have had under my personal observation 7,000 cases of mumps, and nobody since the beginning of time ever saw 7,000 cases of mumps in six months." And in every line of medical thought we find these things are true. The speed with which the acquisition of information is going forward is incalculable.

Now what of the young man in the army? We will have to call for more men, and more men, and more men. What does the army offer our young men in medicine? It offers him on the professional side an opportunity the equal of which the world will probably never see again. Infinitely varied clinical material under absolute control and with every facility for the prosecution of scientific research and credit for the work which he may do; hospitals equipped with every appliance which forethought and care and money can produce; the best of laboratories and the best laboratory men in them; the best X-ray rooms and the best X-ray operators in them; the best men in every line of work which the country can get to come in and give their time and knowledge to the care of the soldiers and the furtherance of our common cause. A young man who wants experience, who wants to learn all he can, who wants to study medicine, has an oppor-

tunity before him now which is absolutely without parallel and which will be without parallel again when these conditions are at an end. Of course, that is a selfish and perhaps a material way in which to ask a man to come into the Medical Reserve. I am not asking anybody to come; I do not think I have to do that before this association. Those who are needed are going, but I want to bring to the younger men what they have waiting for them in return for the sacrifices which they make.

And now, there is just one thought I want to leave with you and lay before you in closing. Let each and every one of us, so far as lies within our power carry on the work of this association. Let us see that the ideals which it stands for, so far as the duties and work of the physicians in civilian life are concerned, are carried on better than before, raised to a higher standard. This association has not been without influence in Georgia in the past. Its influence should be greater than ever before, because it has nobly paid its debt to the public and it will keep on paying, and paying, and paying so long as it has anything to give. But when each and every one of you are at leisure, when you have time, search your own heart and soul and ask yourself whether you are doing all you can do, all that you ought to do in this time and at this crisis, whether it be as a civilian physician, as an organizer, a public health official or what-not—your individual activities are not any longer your personal affair. You belong to your country and your business is your country's business. See to it that you get it well and thoroughly done as never before.

And finally in this time of self-communion which comes somewhere, somehow to every man, take this question home with you and upon your solution your future will be guided I have no doubt. Ask yourself this question—your country is at war, are you? (Applause).

#### Discussion of President's Address.

**Dr. F. W. McRea (Atlanta, Ga.):** I do not think it is right to adjourn just now. I cannot go into the war as Murphy and Harold and Lyle and as my boys have done, but it has been impressed on me as I sat here, and it was impressed on me as Major Murphy expressed his sentiments to us today, that I have never seen men grow and the growth show on their faces, as in the faces of Major

Murphy and Major Harold and Major Lyle and the others. They have taken up for us the burden. We will have to do what we can where we are. But these men have looked into the future. They are ready to do not their bit, but their all, and they are ready to make supreme sacrifices. But we must do our share and more here, we must do our duty here as they are doing it there. I believe all of us are willing to go when they want us and ready to go when they are willing to take us.

**Major C. C. Harold (Macon, Ga.):** As you all know I am not a speaker, I am only a talker. I was thinking when Major Murphy was talking about the chances for study and work offered to the men in the service that there is a large percentage of the service that do not get a great chance to study and that is the group of medical officers with the troop. On the other hand we do have chances that other men do not have. One of the old philosophers said, "The proper study of mankind is man," and we know that is true. The attitude we men who have been with the troops the last year or two has been a medical point of view. We have learned young men from eighteen to thirty years of age, we have learned more about them than we ever though we would know—more than any genito-urinary man knows because we see him well as well as sick. The other day we were called to transfer 200 men from my regiment. As these men came before me and I examined them I was amused at their different attitudes. When one man came in I said, "I am hoping that they will not let you go." "Why?" "Because you sing when you work, and we want men in the regiment who sing when they work." But I said, "Why do you want to leave the regiment?" His reply was, "I have been with this crowd for six months and I want a change." To another man I said, "What in the hell do you want to leave the regiment for?" He said, "You know where this crowd is going" "Yes, to France." "No, I mean where before they go to France." "Yes, to Spartansburg." "Yes, and I left Spartansburg eight years ago and I have a girl there and that's the reason I want to leave." Unless you know the man when he is well you cannot know him when he is sick. The young American is absolutely as versatile and volatile as a girl and as unreasonable. But you get to love him and

the more you love him the more you love to work with him.

**Dr. A. L. R. Avant (Savannah, Ga.):** I want to tell you how an old man feels. As Major Harold has just remarked, the boys have various ideas and notions and thoughts regarding the most crucial time in history. The idea has been advanced by our soldier president, a man whose oratory and whose adaptability to every occasion that the medical profession has laid upon him has measured up to the stature of a full man. (Applause). I have always loved Dr. Murphy for his earnestness and his devotion to any task which he has undertaken as far as my knowledge extends. I dare say there is not a man within the sound of my voice now that does not love him better when you see what he is doing for his country.

Never before in my life have I so much regretted that I am old—born 61 years ago. I have been blessed with health and strength to fight the battles of life, and now I have come to a point when it seems to me that if ever my services were needed, it was now and yet the Government tells me that I am too old. I wish I were about six years younger. I look at it from this standpoint. Unfortunately I have no son, but I know many men here have. I know that in this life they have had their aspirations, no man or boy who has arrived at the age of 21, but has had aspirations in his soul—he has his profession in view and the many things he hopes to accomplish, but the United States comes along and he puts all business in the background to go out and be in the fullest sense of the word, subservient to his master, which is this United States. (Applause). The people make a country; without us it would not be a country; and when our services are needed we must give them. So we at home must do our part, we must lay aside every selfish interest and do everything we can to strengthen the the hands of those who are fighting this great battle for democracy. We must help subdue the monster that would rule this world by an iron hand.

**Dr. T. J. McArthur (Cordele, Ga.):** There are occasions in the history of the world when men take their positions as leaders of men, not by mere accident but by the direction of Divine Providence. Whenever a world crisis has come there has been a Moses raised up to lead the people, and

I believe that it is not an accident that the man who presides over this great nation today is there, but that he is there by the direction of Divine Providence. (Applause). I am sure that you will agree with me that there is today no more initiative Nation in the world than the United States, and that our leader, our beloved President is today and has been during this terrible conflict shaping the ideals of the Allied nations of the world, and his ideas are being accepted and the things he says we find are realized by the Allies nations as true, and when terms of peace are being agreed upon the things that our President is contending for today will be given consideration. I think it is very fortunate for us and for the world that we have a man as President that considers everything from the standpoint of humanitarianism; that we have a man in the President's chair that considers everything, not from the standpoint of selfish politics, nor from the standpoint of opportunities, but every question that comes up he considers from the standpoint of humanity. Raised in a Christian home, under Christian environment, educated and trained as a leader, becoming familiar with legal affairs and going back at the head of one of the largest educational institutions in this study, studying political economy, I say I believe all of this was under the direction of Divine Providence, and that it is not an accident that he is President today. I want to move that we rise to our feet in recognition of the worth and value of this man—the great of President's that America has ever had.

#### ARMY SURGEONS—NOTE!

This JOURNAL will be sent subscribers who are in military service at home or abroad, without additional expense, on receipt of full military address. Keep your address up to date by dropping a card to the Journal of the Medical Association of Georgia, Augusta, Ga.

The more money The Journal of the Medical Association of Georgia makes out of its advertisements the less it costs the State Association to run the paper. This means that every member of the State Association has an interest in the advertising columns. If one business firm advertises and another does not, patronize the one that does. It is money in your pocket.

#### ECTOPIC PREGNANCY PRESENTATION OF SPECIMEN—UNRUPTURED

By Garnett W. Quillian, M.D., Atlanta, Ga.  
Visiting Gynecologist to the Grady City Hospital.

From the time whereof the memory of man runneth not to the contrary, pregnancies with their ever present possible complications, have through their exigencies claimed the merited attention of the most sincere physicians.

The topic to which I invite your consideration for a time therefore, is not a new one, it was first mentioned by Abulcasis in the tenth century, and in 1626 Riolan reported several cases, but which condition when present requires the most painstaking care to discriminate, and unquestioned surgical skill to relieve.

It would seem that at a time like this—when the nations of the earth are engaged in a world war—and every energy of our own country, with that of the Allies, is being exerted to place in shackles the “Beast of Berlin,” and to bring peace and freedom to a liberty loving people, and to make the world safe for democracy, that a different and more appropriate subject for my paper might have been selected, my apology, however, for directing your attention to the subject of extra uterine pregnancy, is the apparent frequency that this pathological condition claims our attention, and the importance of every physician being on the alert in order to recognize and deal with it when present.

An extra uterine or ectopic pregnancy is present when a fertilized ovum becomes adherent to and develops in any part of the genital tract other than the cavity of the uterus.

There are four varieties: Interstitial or tubo-uterine, isthmal, ampullary and tubo-ovarian.

It was formerly held by Lawson Tait, Bland Sutton, and others, that fertilization usually occurred in the cavity of the uterus, but it is now generally accepted that fertilization normally takes place not in the uterus, but in the tube, and the fertilized ovum continues its course through the tube until it reaches the cavity of the uterus where it be-

\*Read at meeting of Medical Association of Georgia, Savannah, Ga., 1918.

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comes imbedded in the endometrium and there develops.

It is not my purpose to present an exhaustive treatise of this very interesting subject, but merely to give a suggestive outline of the etiology, symptoms and treatment, with the relation of two illustrative cases.

Our knowledge of the cases which lead to the retention of the fertilized ovum in the tube is very imperfect, but various theories have been advanced. I suggest the most plausible, first, anatomical causes, such as gonorrhoeal salpingitis. Rabinovitz in the *American Journal of Obstetrics* in 1911, reported 147 repeated tubal pregnancies, and deducted from his series that the destruction of the ciliated epithelium, due to gonorrhoeal salpingitis, to be the predominant cause of tubal pregnancy. This opinion is shared in by Duhrssen, Peterson, Fielder, Loekyer, and others, whose reports show a very large percentage of their ectopic cases to be present in gonorrhoeal salpingitis, and not infrequently in acute inflammatory changes. Perisalpingitis, resulting from an old pelvic peritonitis, or even an appendicitis, producing adhesions occluding the lumen of the tube, or interfering with its normal muscular contractions is another anatomical possible cause which is met with in a small percentage of cases. Diverticula of the tube also have been regarded as a possible site for the development of an ectopic pregnancy, infantile tubes with lack of cilia, and polypi in the tube, may also be included as possible anatomical causes.

Of other theories may be mentioned that of Sippel of "external wandering of the ovum," or the ovum from an ovary on one side entering the tube on the other, and its development during this time making it too large to pass through, it becomes fertilized and attaches itself to the mucous membrane of the tube, and that of Katz, Frankel and Schill, that the migration of the fertilized ovum is arrested due to the disease of, or inner secretion of the corpus luteum.

Another theory given some credence, since frequently ectopic gestation occurs in women who have had repeated criminal abortions, is that nature exerts itself in an effort to protect itself, and the fertilized ovum draws back, or refuses to enter the uterine cavity becoming implanted in the walls of the tube.

A tubal pregnancy may terminate in a number of different ways: (1) The ovum may

die early, and become absorbed, giving no symptoms. (2) A haematosalpinx may be formed by hemorrhage in the tube. (3) Tubal abortion, or bursting of the sac into the lumen of the tube. (4) Tubal mole, by deposits of blood in successive layers forming an encised condition. (5) Tubal rupture, or the breaking through of the outer wall of the tube, allowing unimpeded abdominal hemorrhage, producing sudden collapse, and not infrequently death. (6) Finally it may go on developing into the second half or possibly to the end of pregnancy, abdominal pregnancy. L. C. Fisher in an article published in the *Southern Medical Journal*, November, 1917, reported such a case.

One of the most constant of the symptoms of tubal pregnancy before rupture is spasmodic attacks of unilateral pain, usually associated in some degree with the amenorrhoea of pregnancy, the patient thinks that she is pregnant, but feels that something is wrong, and if she has previously borne children, she feels that this pregnancy differs in some way in which she is unable to explain from previous pregnancies. On pelvic examination, a feeling of faintness is usually experienced by the patient.

This condition must be differentiated from: (1) Intra-uterine or normal pregnancy, (2) uterine pregnancy with an enlarged tube or ovary, (3) pyosalpinx, (4) appendicitis, if pathology is present on the right side, (5) misplaced pregnant uterus, (6) pelvic cellulitis, (7) tumors of uterus or ovary, (8) serous effusion from a malignant growth. The history of the case with age, Bland-Sutton states that more cases occur between the ages of 20 to 25, than between the age of 35 to 41, careful physical examination, laboratory findings, X-ray, Abderhaldens' serum reaction may occasionally determine the diagnosis.

If a rupture, a history of premonitory attacks of unilateral pain, succeeded by intense general abdominal pain, with all the signs of internal hemorrhage. The pain may come on without any apparent cause, or may follow some slight trauma or strain, or may be a sequellae of coepulation. The patient usually faints, the mucous membranes become blanched, the pulse is small, thready and rapid, the respirations become hurried and shallow and a sense of air hunger is present, the extremities become cold and clammy and the condition is critical.

In the event the diagnosis is uncertain the patient should be put at absolute rest in bed in an up to date well equipped hospital, and there kept under careful observation until a positive diagnosis is made.

The treatment of ectopic pregnancy is essentially surgical. W. W. Harbert in an article published in *Western Journal of Medicine and Surgery of Louisville* in 1849, first suggested laparotomy; Stephen Rogers in 1867 wrote "the peritoneal cavity must be opened and the bleeding vessels ligated," but Lawson Tait in 1883 was the first to successfully operate for this condition.

If the diagnosis is made before rupture, the operation is easy, and the prognosis most favorable. It is necessary only to clamp off and remove the tube.

In every case the opposite tube and ovary should be examined, and the ovaries if possible should be preserved.

If the condition of the patient is grave following rupture, and the symptoms of hemorrhage are unmistakable, then laparotomy must be done at once, sometimes it may be necessary to make quick preparation and operate on the patient without moving her from her bed, but always where possible the patient should be moved to a hospital for the operation. The patient should always be placed in the extreme trendelenburg position immediately, kept in that position while preparations are being made for operation, and continued even after the operation is completed, an assistant should give, if necessary, intravenous saline infusion during the operation, and if convenient to do so intravenous ether anaesthesia may be employed simultaneously. Where possible to secure a donor quickly, transfusion may save the life of the patient.

If the patient's condition is not grave the operator should remove all fluid blood and clots from the abdominal cavity, but if the operation is done aseptically, this is not essential, for the blood quickly becomes absorbed, the more quickly the operation is performed the more favorable the prognosis. Some surgeons have suggested the vaginal route for the operation, personally I have never used any except the abdominal median incision in these cases, and cannot see any reasonable hypothesis for any different method.

In rare instances where the surgeon sees a patient late after rupture, it may be safer to treat the condition expectantly, overcom-

ing the primary shock by appropriate methods and operating a few hours later. In this condition each patient must be treated individually, and the greatest ingenuity of the most resourceful surgeon is taxed to its utmost.

The two illustrative cases which I wish to report are: First, Miss H., aged 21 years, a young unmarried woman upon whom, according to her statement, two criminal abortions had been performed, and from whom the specimen which I have presented was removed.

She came to my office first for treatment on January 4, 1918, complaining that she had taken cold, that she had menstruated very scantily the month before and that her menses then were past due about a week. After making a careful physical examination, diagnosis was tentatively made of chronic appendix with a slight acute exacerbation, possibly art. pyosalpinx, congested uterine, but no pregnancy. On January 14, ten days later, I was called to see her at her home at midnight, the right rectus was more rigid, pain on pressure was more intense, this accompanied with slight nausea, but a temperature of only 99. Acute appendicitis was suggested, and the patient was immediately transferred to the sanitarium, where a white and differential blood examination was made, the leukocytes were only 8,500 and the differential not suggestive. The patient was kept quietly in bed, and the next day pelvic examination suggested very strongly ectopic pregnancy, with an appendix involvement. Laparotomy was performed, and the specimen presented removed. The tip of the appendix was inflamed and adherent to the tube, this was also removed. There was no shock, recovery was uneventful, and the patient left the hospital on the twelfth day.

The second was a typical case of ruptured ectopic, Mrs. B., aged 25 years, mother of two children, the youngest being five years of age, had complained of scanty menstruation at last period, and believed that she was pregnant, had had irregular colicky pains low down in her left iliac fossa, and had passed through the vagina, as she afterward described it. "Little pieces of membrane," probably false decidua. This patient was seen first in consultation, at which time she was unconscious, and in a state of extreme shock, her respirations were shallow and rapid, her pulse small, thready and

about 150-160, her lips pale, and extremities cold, this condition developing suddenly about an hour before. The above suggestive history was quickly secured from the attending physician and the sister of the patient, diagnosis of ruptured ectopic was made without even making a pelvic examination, the patient was given morphia gr.  $\frac{3}{4}$ , held in an extreme trendelenburg position, rushed to the infirmary, where in less than an hour after she was first seen, her abdomen was opened and emptied of a large blood clot, quite a bit of bloody serum, however, being left in the cul-de-sac, the left tube was clamped and removed, and the abdomen closed. Normal saline was given intravenously by the interne simultaneously with the operation and the condition of the patient was better on leaving the table than when the operation was begun. She was left in an extreme trendelenburg position for 48 hours, and continuous proctoclysis of citrate of soda and dextrose by the Murphey drip method was given. Adrenalin Mxv. was given every six hours, alternating with pituitrin  $\frac{3}{4}$  cc. every six hours.

The patient reacted beautifully from the shock in 12 hours, and her recovery was uneventful, she left the hospital on the nineteenth day following the operation.

My conclusions from a study of this condition are: First. Diagnosis of an unruptured ectopic pregnancy is possible, and would be more frequent if this possible condition was kept in mind by the obstetrician and general practitioner.

Second. Every doubtful case should be detained in a well equipped hospital until diagnosis is determined.

Third. Once a positive diagnosis is made, immediate abdominal operation should be performed.

Fourth. Finally, if a positive diagnosis is impossible, but sufficient evidence is present to suspect an ectopic, unless there are contra-indications, an exploratory incision should be made.

#### DISCUSSION OF DR. QUILLIAN'S PAPER

**Dr. E. B. Block (Atlanta, Ga.):** I would like to ask if in each instance the corpus luteum was in the same side as the ectopic gestation?

**Dr. F. W. McRae (Atlanta, Ga.):** This subject is one of very great interest. The

history which Dr. Quillian gave in his first case reported is a typical one of ectopic pregnancy. We ought simply to bear in mind that this condition is not at all infrequent and then go carefully about it, make a careful examination, keep the patient under observation, and when we do that the operation is as simple as an operation in an interval of appendicitis.

I have done no general practice for years, and my cases being consultation, I have seen the other side of the subject. The majority of the cases of ectopic pregnancy that I have operated on for several years were sent as cases of appendicitis—where there was rupture and initial shock, and I operated for the accumulation of debris that was shut in. That could all be prevented. There are symptoms, a woman feels she is pregnant, but feels different, as Dr. Quillian says. I think in the beginning of these cases there is more or less continuous flow. The patient says she menstruates normally at a certain time, but following that there was a little flow. Then there is exfoliation of membrane with an uncomfortable feeling on one side or the other that ought to promptly call our attention to the probable existence of this condition. Following up these cases a large number of them can be diagnosed and operation be done before rupture has taken place. The classic symptoms Dr. Quillian has presented in these latter cases.

One point I would like to mention is that we should not begin transfusion until we are ready to control the hemorrhage. This may increase the loss of blood and defeat the very object for which it is given. I think this is a very important subject.

**Dr. J. L. Campbell (Atlanta):** I have been very much interested in this subject for a number of years, and I intended to mention one of the points brought out by Dr. McRae, and that is the discharge of the membrane, provided the condition has existed for a length of time. Rupture in ectopic pregnancy will take place almost any time after the first few weeks, rarely going over three months. If it should go over the first or second period, you nearly always have a continuous flow and a discharge of this membrane, which is characteristic of ectopic pregnancy, and should never be overlooked. I have operated a number of cases that were sent in for acute appendicitis. This patient that Dr. Quillian reports came into the



Grady Hospital about 12 one night, while I was operating on a patient for intestinal obstruction. The assistant interne came and reported that a patient had just been sent in with acute appendicitis. I ordered the blood count and then went down to see the patient, and she was apparently not sick enough for immediate operation, and we decided to wait until the following morning. The following morning she decided she would rather have Dr. Quillian operate on her and go into a private room, which she did and Dr. Quillian then came down and made a careful examination and a diagnosis of ectopic pregnancy.

One symptom we find in a great many of these cases that Dr. Quillian did not mention, and that is suppression of urine. A year or two ago I operated on a woman for an ectopic pregnancy of about two and a half months, but she died soon after on account of long continued suppression of urine previous to the operation. We find that is a frequent complication in extra-uterine pregnancy. These are very interesting cases, and if we had a full history and note the symptoms, we should be able to make a diagnosis and save many lives.

**Dr. W. A. Selman (Atlanta):** I want to mention one symptom that has not been mentioned, and that is the epigastric pain that I have found in many of my cases. These women were taken suddenly when they were about their work. One woman was in the rear of the house, had a sudden epigastric pain; she fainted and had to be carried to her bed. I saw there was some grave hemorrhage, some intra-abdominal trouble, and rushed her to the hospital and opened her without going through the test, but her pain was epigastric and just as soon as we liberated the gastric ulcer (?) the pain was gone. Recently I had a negro woman who had some symptoms exactly like an epigastric pain, and in this case I had no time to work up the case; I had to go in and check the hemorrhage. In both instances I found trouble in the pelvis—a ruptured ectopic.

**Dr. Garnett W. Quillian (Atlanta):** I stated in the beginning that my paper did not propose to enter into an exhaustive treatise of the subject, but merely to suggest an outline, and consequently some of the points touched upon by the discussants I did not mention.

In reply to Dr. Block's question as to whether or not the corpus luteum was on the same side as the ectopic gestation, I regret I can not answer that in these two cases, because there was no way to tell after the condition was present. I suppose the only way you would be able to tell would be after the operation had been performed, that the tube on the side where the ovary was had been removed. I do not know how you could determine definitely whether or not the corpus luteum from one side would pass to the other unless there had been a previous operation.

Dr. McRae emphasizes the importance of making a differential diagnosis between ectopic pregnancy and appendicitis. That is a most important feature, because frequently the appendix may become adherent to the impregnated ovum. Of course, any kind of heart stimulant or saline infusion by rectum ought not to be given, because if you add to the work of the heart, you make your condition worse.

Dr. Campbell spoke of these patients that are sent in as charity patients and having a blood count made. This is in order to differentiate between acute appendicitis and ectopic. The next day the diagnosis was completed.

In reference to the suppressing of urine, I have not had any experience in noting this particular condition, but in all such cases we always give for postoperative treatment picuitrin. We find it acts as a diuretic and very often even catheterization is not necessary when we use picuitrin. We very strongly suggest the use of picuitrin as a postoperative treatment to overcome shock.

With reference to Dr. Selman's suggestion in regard to epigastric pain, he did not state whether a diagnosis of ectopic pregnancy was made on the epigastric pain. Certainly I do not think I would diagnose an ectopic simply from epigastric pain.

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**CAESAREAN SECTION—A MIDGET.\*****By R. C. Woodard, Adel, Ga.**

In presenting this paper I do not do so with a view of giving anything new on a Caesarean section, nor even giving the technique of this particular case, but simply to bring it before this association on account of the unusual size of the patient and the very happy results obtained. This little woman, Mrs. Estes, known to the carnival world as "Princess Tiny," came to Adel, Ga., with a street carnival during the early part of last November. After playing a week's engagement in our town she played the following week at Ashburn, Ga., returning to a boarding house in Adel and called for me. I being absent, the call was answered by my associate, Dr. Hall, and upon my return Dr. Hall told me of having seen this lady and said that she was pregnant and wanted us to deliver her by the Caesarean route. I asked him if he thought it was necessary, and he said he did, and I asked him if he had made a pelvetry; he laughingly said no, but told me I had best go down and see her, and if I wanted to take the job he was ready. When I called to see the lady that afternoon I found her sitting on a child's chair and explaining to me very intelligently her condition and expected to be delivered in about ten days, telling me that one year previous to that time she had been similarly delivered at Columbia, S. C., the operation woman was not weighed by me and upon measurement was 36 inches tall. This case being of such unusual interest to me, and as I thought to deliver interest to me, and as I thought to deliver this little woman of a living child would be more than out of the ordinary, I called Dr. Little, of Valdosta, and told him of the proposition that had been put up to me by this little woman that afternoon to do on her a Caesarean section. Dr. Little told me he would be glad to come up, even though called at night and in a storm and do what he could to help me do the work. Having gotten the date of her last menstrual period I computed the time and dated her expected confinement one week later—thereupon on the evening of November 25th she was taken

to our sanitarium and prepared for the operation in the usual way—to be done the following morning. The following morning at 10 o'clock ether anaesthetic was begun by Dr. Shepard of our town; the operation was performed by Drs. Hall of Adel and Little of Valdosta; the baby was delivered in less than ten minutes after the patient was placed on the table and after thirty minutes' heroic work by Dr. Freeman of Valdosta and myself a bouncing baby boy, weighing six pounds, was made to cry. In one and a half hours after the anesthetic was started the mother had reacted, was talking and laughing and calling for ice. The recovery was uneventful, leaving the hospital on the 10th day after having these photographs made, which I show you. The only interesting feature about this operation that I claim is the unusual size of the mother and the delivery of a living baby from this little woman weighing six pounds. Now as I understand it this little woman is not a real midget, but more of a deformity, a freak of nature which you will notice from the photograph where she is standing by a child's chair and also beside my little girl, age 10—that she must be one of the smallest mothers on record. She views an operation of this kind with absolutely no dread, both of her Caesarean operations resulting in absolutely no trouble to her. During the time she was in our sanitarium she never complained of a single pain and her temperature was never above normal. The operation was witnessed by Drs. Little and Freeman of Valdosta, Etheridge and Lovett of Sparta, Drs. Hall and Shepard and myself of Adel, besides several trained nurses.

**DISCUSSION OF DR. WOODARD'S PAPER.**

**Dr. A. G. Fort (Tifton):** One thing that interested me in this patient, which I happened to see, was the fact that the little mother was able to nourish that child. She furnished all of the nourishment for that child. It weighed about nine pounds and was half as tall as its mother.

**Dr. F. W. McRae (Atlanta):** I want to thank Dr. Woodard for presenting this most interesting case. It was well presented, an excellent piece of surgery, and the doctor should be congratulated.

\*Read at meeting of Medical Association of Georgia, Savannah, Ga., 1918.

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**Dr. R. Lattimore (Savannah):** I would like to ask the size of the father.

**Dr. R. C. Woodard (Adel):** The father, as shown in a photograph, was five feet and eight inches tall and weighed 195 pounds.

I thank Dr. McRae and the other gentlemen for the way in which they have received this paper.

### CHRONIC APPENDICITIS IN YOUNG CHILDREN.

By Baxter Moore, M.D., Atlanta, Ga.

Chronic appendicitis in young children, I am sure, is a condition which has not been recognized as often in the past as it should.

Acute appendicitis is very familiar to all. At the present time, almost any layman can diagnose acute appendicitis, or at least he knows enough about the seriousness of the disease to come to the doctor when he has a violent pain in the abdomen, especially if the pain is more to the right side of his abdomen than the left, and the education of the layman by the doctor as to the symptoms of this disease has been one of the greatest steps taken to combat the ravages of appendicitis, because at the present time we get most of such cases before much involvement of the surrounding tissues has had time to take place.

Acute appendicitis is and has been recognized for some years in young children; in fact, it is recognized as the most common and important surgical disease of the abdomen in children.

The fatality following operations upon children for appendicitis has been greatly exaggerated in the past, and is still by some. Dr. William B. Coley of New York shows a mortality of only 12 per cent in 86 cases, and these cases were all from the poorer classes, in which case possibly no doctor had ever been seen until they arrived at the hospital, but the parents had treated for some digestive trouble, or had not considered the child's complaint as at all serious until the child was in real agony or perfectly limp from an appendix which had become an abscess, gangrenous, or had ruptured, thus giving the mortality as above recorded.

A small child will bear a far greater amount of pain with much less complaint than will the adult. I know that this statement will be challenged by some, but I be-

lieve that the vast majority of the profession will agree with me in this opinion. I have known children between the age of two and five years to have an acute condition of the middle ear, and never once complain of the ear at all. I have in mind one of three years of age who never complained, and the condition would have been overlooked if it had not been for the fact that I discovered the discharge.

I could relate many cases to bear out this statement as to children not complaining of pain.

Chronic appendicitis, I believe, occurs very often in children, and the cases are not reported, for the simple reason that it is the common belief that it does not occur in young children, and often even after the doctor has failed to satisfy himself as to what the condition is, he does not even examine the child as he should to eliminate appendicitis.

Chronic (relapsing or recurrent) appendicitis was not for a long time recognized by the medical profession as it should have been, but I am thankful to say that the internist does not spend as much time trying to effect a cure for appendicitis with drugs as he once did; I am also sure that the stomach specialist of today will admit that many of the digestive disorders, which he in the past tried to correct by the use of the stomach pump and by drugs, he has long since found to be due to a chronic appendix.

It is my sincere hope that men of our profession who are devoting their time and attention to the diseases of children will in the future be more attentive, as to the possibilities of the many digestive disorders which may be produced by the presence of a chronic appendix in a child, even of a few months or weeks after its birth.

There is nothing in medicine or surgery more important in aiding one to arrive at the proper diagnosis than a good clear case history; this, of course, is very often very difficult to get, especially in the case of a child, but by patient and intelligent quizzing of the parents, a good history of most cases may be obtained. I am sorry to say that in many cases this is sadly neglected.

Too often when the child does complain of abdominal pains, it is given a dose of castor oil and dismissed. I admit that castor oil is a most excellent drug, especially for children, and it does clear up many abdominal



pains, and that is possibly the last you hear of the pain, but at the same time because of the fact that this form of treatment does suffice, at least temporarily, it is no excuse for the doctor to give the child a passing glance and say to the parents, "Oh, it's nothing."

Every child who has pain within his abdomen of sufficient severity to have the doctor called should certainly have a most comprehensive examination of the abdomen made by the attending doctor at that time. It is hard enough to locate the real cause of pain in the adult abdomen, and therefore much harder often to locate it in the child, and I am sure, for that reason, the child's abdomen should be examined even more carefully than that of the adult, and not given a passing glance and a dose of castor oil.

I will not go into the technic of an abdominal examination, but take it as a matter of course that every man in the profession has familiarized, is familiarizing or is going to familiarize himself with the proper technic of an abdominal examination, which he can get from any one of many excellent books now upon the market, and more important than the technic, learn how to interpret his findings upon such an examination.

The X-ray is of invaluable assistance in many of these cases, and I would advise that a picture be made in every case possible. It is better, if possible, to have pictures of the entire alimentary tract taken, so as to get all information possible as to the condition of your patient. Where that is not possible, I would advise a picture of the cecum and surrounding tissues. Often an appendix may be demonstrated by the flouroscope, where it is impossible to show the appendix with a picture; i. e., at times the cecum can be held to one side, and a post-coecal appendix demonstrated, which would have otherwise been hidden by the cecum.

There is no organ of the body, and no faculty of the brain of the growing child, which is immuned from the ill effects of a chronic appendix. It has been demonstrated almost beyond numeration that poisons in the form of toxins are absorbed from a chronic appendix; the same is true of a very small abscess at the root of a tooth or a tonsil. It is sometimes marvelous to hear related the ill effects following absorption from a small abscess at the root of a tooth or that from a tonsil, and the men interested in these lines of work have succeeded in impressing the public as

to these far-reaching and harmful effects of absorption from the above mentioned conditions. I do not challenge these statements as to the importance of having these conditions corrected; what I wish to do is this:

If, as it has been shown, that so many pathological conditions can arise from absorption from an abscessed tooth and tonsil, which are, at least in part in most cases, drained out through the mouth, in that the patients gets rid of some of the drainage by expectorating, just think of the toxins absorbed from an old chronic appendix, many of which are as long as eight to ten inches, with a caliber of one-half inch, and not a few reaching proportions far surpassing these dimensions.

There is no part of the body or mind immuned from the ill effects caused by the absorption of the toxins formed in this way, and to my mind there is no greater cause for faulty development of the mind and body than a person being so unfortunate as to be the possessor of a chronic appendix, which is feeding him poison continually, and of all time in the life of a human being to recognize this great handicap to growth and development of mind and body, extreme youth is the time, so as to give the individual his fair chance to compete with his fellow man in whatever capacity he may choose.

Following are two case reports, which I feel will be of interest.

**Case A:** Boy, seven years old. When born was a perfect specimen; so far as could be found by examination; weighed about 7½ pounds. At two weeks developed a most severe attack of iliocolitis; was desperately ill for six weeks.

This child had every attention which money could give; there was a graduate nurse on duty night and day, and every bit of nourishment was as carefully prepared as is possible, still these attacks occurred at intervals of about six months.

When the child was about three years of age he was put under the care of one of the leading men in this country, a man noted for his knowledge of the diseases of children; while under this eminent specialist the child did not have an attack of iliocolitis, but developed rickets from being kept up on too limited diet. The child was under the observation of this specialist for three months, and dismissed with no explanation as to the

cause of the attacks involving the intestinal tract.

Later the child was kept in one of the great Eastern hospitals for three months, and no cause for this condition demonstrated.

At about the age of seven years he was a poorly nourished boy, still showing signs of rickets and giving a history as follows:

Slightly indisposed, sense of nausea, temperature 102, and as expressed by the patient, his stomach felt hot.

Upon examination I found but slight tenderness, and no rigidity of the abdomen, not even of the right rectus muscle; the patient was very thin, and I could make out a slight mass; deep pressure gave some pain.

Further questioning of the mother gave out this fact: When the child would have these attacks, she would give him a large dose of castor oil; he would have one to three normal movements and then one which looked to her like puss, then his temperature would subside and the attack would be over.

I advised an X-ray picture, as the blood picture was practically normal, with the fluoroscope I could, by holding the cecum to one side with my hand, demonstrate the appendix, but could not get a picture, as the cecum would hide the appendix. When allowed to remain in its normal position, the appendix was post-coecal, but there were no adhesions.

I removed the appendix the following morning and found it to be about six inches long; about three-quarters of an inch from the proximal end, there was quite an enlargement, which was undoubtedly the seat of the trouble. The lining to this dilated part of the appendix was an old pyogenic sac, which became blocked at intervals and then there was the formation of an abscess which would rupture into the colon when the pressure became sufficiently great, the point of least resistance being toward the colon.

Since the removal of the appendix in this case there has been the greatest change in the child; as it were, he has been made over. For the past year he eats what he pleases to and never has a pain nor an ache and is gaining in strength every day.

**Case B:** Boy, seven years of age. Parents very large and strong, brother only two years older is almost twice as large.

Up to age of four years patient was as good a specimen as the older brother; previ-

ous history practically negative; at the age of four years he commenced to lose his appetite, did not have the same amount of energy which he had displayed previous to that time, complained of slight feeling of nausea and began to lose weight and flesh, and the body poise became that of a poorly nourished child. He has been treated by a number of physicians for indigestion, but has not responded to the treatment.

I made a thorough examination of the child's heart and lungs and found them to be normal.

Physical examination of the abdomen revealed slight tenderness over the appendix and some muscular spasm of the right rectus muscle.

I advised X-ray pictures of the digestive tract.

There was no pathological condition found about the stomach or any other part of the tract until a colon injection was made, and then the appendix was demonstrated as shown in the picture.

I could give the case history of several other cases of this kind which have come under my observation within the past few years, but I am sure that these two will recall to many of you, cases which you have treated over long periods of time without getting the results which you looked for, and I am sure that there are many people in the world today who have never had good health and therefore never had a fair chance to compete with his more fortunate brother, because a chronic condition of this kind has held them back physically and mentally for the better part of their lives.

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CONTRIBUTIONS TYPEWRITTEN: Authors should have their contributions typewritten—double space and with ample margin—before submitting them. The expense is small to the author—the satisfaction is great to the editor and printer. We cannot promise to return unused manuscript, but try to do so in every instance. Manuscript should not be rolled or folded.

ANONYMOUS CONTRIBUTIONS, whether for publication, for information, or in the way of criticism, are consigned to the wastebasket unread.

NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

## MEDICAL ASSOCIATION OF GEORGIA.

The 69th meeting of the Medical Association of Georgia was called to order at 10:30 Wednesday morning, April 17, 1918, by the president, Major E. E. Murphey, of Augusta.

Invocation by Rev. Wm. N. Ainsworth.

Address of Welcome, Hon. W. J. Pierpont, mayor of Savannah.

Gentlemen: I consider it a very great honor and at the same time a very sincere pleasure to welcome this distinguished body of men, the Georgia State Medical Association to Savannah. I am sure than in personnel as in the record of your achievement, no state in the union can make a better showing. This is a profession which we all recognize, and without a peer in its dignity and in its usefulness, and all of the civilized world are proud of what the men of your profession have accomplished in the way of

conquering disease and making the lives of humanity safer, longer and happier. I have often wondered what attraction there is in the practice of medicine that keeps the rank filled. I have observed that the road to your profession is long, arduous and expensive. I have observed that recognition of skill comes slowly; that financial reward is seldom measured by the amount of good accomplished or the amount of service given. I have observed that the nature of your responsibility is that you are compelled to ring out many pleasures that other men enjoy; that you have bound yourselves by a code of ethics which is diametrically opposed to the practices of business men and which they would consider unfair to themselves. But yet your services are indispensable to every individual at some time, and you might, if you were so disposed, claim a maximum reward. Whatever the inducement which keeps your ranks filled, whether it be hope of fame, or the inherent desire to give service, it is indeed fortunate for humanity that it exists and I hope that each one of you is getting some reward or some faction that makes life worth living.

On behalf of Savannah, I welcome you most heartily. All of Savannah are glad that you are here, and I hope that your convention will be pleasant and profitable to every member, and that each one of you will retain pleasant memories of our city and that you will honor our city again in the not distant future.

## ADDRESS OF WELCOME ON BEHALF OF LOCAL PROFESSION.

By H. H. Martin, M.D., Savannah.

Having been denied the privilege of attending a meeting of the Medical Association of Georgia since 1914 it is with unusual pleasure that I undertake the agreeable duty assigned me: that of bidding you welcome on behalf of that ancient and honorable body, the Georgia Medical Society, and while I earnestly wish that I were gifted with a command of words and a grace of delivery that would do justice to the occasion, perhaps after all a few homely words coming from the heart, conveying the sense and feeling of a genuine hospitality, a hospitality that is a combination of pride in the privilege of entertaining you, pleasure in the annual



renewal of personal friendships and a desire to perpetuate the traditions of the local society, would more clearly sound the responsive chord in your breasts and more nearly express the feelings in our own. Your hearty and wholesome response to the graceful welcome which has just been extended you on the part of the city, confirms me in the conviction that I need not grope eternally for words of welcome on this occasion, for you have been here before and you know you are welcome to our hearts and to our homes.

On the occasion of your last meeting here, which was before the word "bone-dry" had been invented, I encountered an enthusiastic member from up state who had been entertained, not wisely but too well and asked him where he thought we should hold the next meeting; after a vain effort to fix on me a wandering eye he replied that he didn't give a damn so it was somewhere in Savannah. That to my mind was a most eloquent speech and we hope that all of you will always feel just that way about it. It has been our pleasure and privilege in the past to prepare for your entertainment certain social functions which we have enjoyed with you and which have left with us many pleasant memories, but in this time of dire disaster when our very existence is threatened by a predatory nation of monsters, when our acquaintances, friends and brothers are giving their lives, that we may enjoy life, liberty and the pursuit of happiness; we feel in no mood for social or any other functions that have not for their sole object the defeat and extermination of these hideous Spawn of Hell, who have threatened and are still threatening to impose upon this great and beautiful world their obscene, treacherous and beastly Kultur. We feel, therefore, that we can give you more appropriate and more agreeable entertainment (thereby giving ourselves greater pleasure and profit) by gathering in a great patriotic mass meeting, rather than around the banquet board; where you will hear talks from men who have faced these monsters on the battle field and live to tell their story. Do not think therefore for one minute that because we do not wine you and dine you as in happier days that we no longer open our very hearts to you. On the contrary this appalling cataclysm has drawn us more closely together, has given us a greater appreciation of the doctrine of the brotherhood of man and in

this organization of ours, which already is entitled to many stars in its service flag we are more closely bound by the ties of brotherhood, more tolerant of each other's weaknesses and short comings, more earnest in our determination to sacrifice ourselves and our all in this fight between humanity and these meanly, monstrous brute beasts, who would impose their will upon us.

In pursuance of this idea we have arranged for a mass meeting at the Savannah Theater, Thursday night, to take the place of the customary banquet. And instead of the traditional pilgrimage to Tybee you will have the opportunity of hearing scientific papers from some of the most distinguished medical officers of three great nations: Great Britain, France and our own beloved America.

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### RESPONSE TO ADDRESSES OF WELCOME.

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By Dr. W. S. Goldsmith, Atlanta, Ga.

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Mr. President, Gentlemen of the Association: It is difficult to fashion into words a response to a welcome to this beautiful city, the warm hand clasp, the open door, the very fragrance of the flowers brings a welcome to us. The atmosphere is pervaded with a geniality, it radiates happiness and joy, and no other memory can quite blot out this happy occasion.

We stand today, Mr. President, upon historic soil—hallowed ground, and when we stroll among these charming parks and squares we see historic figures of imperishable marble and brass which speak the spirit of the times. Among them we see Irish William Jasper, standing sword in hand, representing the same spirit that actuates our men on the fields of France today. If these heroes could only hear the tramping feet of the American Army today as it goes forth in response to the call of our country. When General Oglethorpe pushing his boats down this slow winding stream laid the foundation for this city his selection was a wise one. When the pioneers followed, taking up agriculture and establishing trade centers, he cultivated amicable relations with the Indians, which were in existence as long as General Oglethorpe remained in command of the colonies. By what strange diplomacy or courage did this wonderful man keep on

terms with the red man—it was only by his force of character that he won the respect of these men.

Savannah is so rich in historic events that many a profitable hour could be spent reviewing incidents of colonial and revolutionary days, and it seems to me very fitting that at this momentous time this scientific body should come from all parts of the State to gather here at this place so important in the life of this commonwealth. So many associations, dear to the native Savannahian's heart are seen in every direction our steps may lead us. How many of us are familiar with the history and romance of Bonaventure, the beautiful city of the dead. Bonaventure—good adventure—where today, guarded by stately oaks, holding in their moss-covered bosoms secrets of love and romance and war, sleep the descendants of the pioneers of this State of Georgia.

This strange old city stands among the leaders in export trade, has one of the largest naval stores in the world and is awakening to its commercial and industrial opportunities as never before. The great sugar refineries and other manufacturers, the ship building yards and many other industries are evidence of the material progress which has come to this city. It is indeed a pleasure for this association to be invited to Savannah. Are you aware that the Chatham County Medical Society is one which is known for the character of its membership, its wonderful work and its wholesome environment. Its example is an inspiration and an encouragement to every medical society in the State. All I can say in response is that we accept this welcome extended to our society by these gentlemen and thank you for it.

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#### MINUTES OF COUNCIL.

#### MEETING OF COUNCIL.

April 16, 1918.

In absence of Chairman meeting called to order by President Murphy.

Present: Drs. Jennings, Champion, Elrod, McCurry, Tuten and New.

Reports of various districts made and received.

The annual report of the Secretary-Treasurer was made and a committee, consisting of Drs. Champion, Elrod and New, was ap-

pointed to audit the accounts of the Treasurer.

Owing to being in military service the Secretary-Treasurer tendered his resignation, which was not accepted, but he was allowed an indefinite leave of absence, with authority to employ an assistant editor of *The Journal* and supervisor of the work of the Secretary-Treasurer without additional cost to the Association.

Upon motion the meeting adjourned.

W. C. LYLE,

Sec.-Treas.

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#### MEETING OF COUNCIL, APRIL 17, 18, 19, 1918.

In the absence of the chairman the meeting was called to order by the secretary.

Upon motion all old officers were re-elected.

Dr. E. E. Murphey, Augusta, was elected to succeed Dr. W. W. Pilcher, deceased, as a member of the Committee on Medical Defense.

Upon motion the meeting adjourned.

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#### MINUTES. HOUSE OF DELEGATES.

The House of Delegates was called to order at 9:45 on the morning of Thursday, April 18, 1918, by the President.

Major W. C. Lyle read a report of the meeting of Council held April 16, 1918. It was moved that this report as presented be approved. Motion seconded and carried.

Dr. J. G. Dean Dawson presented the following resolution and moved its adoption:

WHEREAS the time of the annual meeting of the Georgia State Medical Association occurs always on or about the same dates as do the annual meetings of the State Associations of our four neighboring States, Alabama, Tennessee, South Carolina and Florida; and

WHEREAS it is the opinion of the House of Delegates of this Association that medical and surgical interests of Georgia would be promoted by such a change in the date of our annual meeting, as would make it possible for the physicians of Georgia and of her neighbors referred to to interchange visits on these annual occasions; therefore

BE IT RESOLVED that the annual meeting of this Association for the year 1920 and

yearly thereafter occur on the first Wednesday in April and the two succeeding days.

This motion was seconded and carried, to be presented to the Convention.

Notice was given of a change in the constitution, so that in future the fees may be not to exceed \$5.00.

Dr. J. L. Campbell, of Atlanta, presented the following resolution:

On account of the increasing mortality from cancer throughout the world and because the general public is not aware of the danger of this great scourge; and because of the tendency to delay action in case of cancer until it is too late, therefore:

BE IT RESOLVED by the Medical Association of Georgia that the President be empowered to appoint a committee, consisting of one member from each congressional district to be known as the "Commission of the Medical Association of Georgia for the Study and Control of Cancer," and that this commission shall have the power to select as many pathologists as it may see fit; and further to use any and every legitimate means to educate the public and call the attention of the profession to the increasing danger of cancer.

This resolution was approved, to be brought before the business meeting of the Association.

Dr. R. E. Hinman, Atlanta, presented the following resolution:

WHEREAS the Board of Medical Examiners of Georgia is hampered in its efforts to enforce the provisions of the law regulating the practice of medicine, by the non-attendance of those subpoenaed to before them; therefore

BE IT RESOLVED that the Medical Association of the State of Georgia requests the Legislature of Georgia to so amend the medical practice act that such attendance be made compulsory.

Dr. McArthur moved the adoption of this resolution and it was seconded and carried.

Major W. C. Lyle presented an invitation from the Atlanta Chamber of Commerce that the Medical Association join with them in requesting the National Association of Trained Nurses to meet in Atlanta in 1919. It was moved, seconded and carried that the Association comply with this request.

Adjournment.

The House of Delegates held a second meeting on Thursday morning just prior to the regular meeting of the Association, in order that the motion involving the change of by-laws might be considered without lying over another year. This motion was approved.

### SECRETARY-TREASURER REPORT 1918.

In submitting this, my eighth annual report, I wish to apologize for the brevity of same in that for the past six months I have been on active military duty and therefore not in a position to make recommendations or suggestions.

I respectfully refer you to my last annual report, concerning suggestions made therein and the results therefrom. I wish to bring to your attention the value of organization, as evidenced by the prompt response made by every officer and member of the Association to any request coming through this office from the War Department or any of its branches.

The mere fact that at this time approximately 500 physicians from Georgia have been commissioned in the Army or in the Navy shows a spirit of sacrifice and patriotism reflecting great credit upon our profession.

Practically all of these officers were members of our Association and among the most active of our members, thus seriously depleting the scientific portion of our annual meeting, and very materially reducing our income from membership fees. With such a condition confronting the Association I feel it advisable to recommend for your consideration a proposed change in the constitution whereby, if occasion arises, an increase in the amount of annual dues may be permitted.

Under Article X of the Constitution, the per capita assessment for dues cannot exceed \$3 per annum, and with the increased cost of all services necessary to the Association, such as rentals, clerical assistance, stationery, printing, postage, war taxes, etc., with the material reduction in income consequent upon the entrance into military service of so many of our members, I feel that the Association should consider the advisability of permitting an increase of annual dues if the occasion should arise.

As you know, it will be necessary to introduce such an amendment and let it lie over



for one year before action, and while it may never be necessary to make such increase, I feel that the Association should be in a position to do so if urgent occasion should arise.

While there is no doubt but that we may continue during the coming year without being seriously hampered, if the succeeding year should make such drafts upon our resources as has been done in the past, it will be absolutely necessary to take some steps toward placing ourselves in a position of protection, and I feel that the members who are allowed to remain at their homes will not object to a small necessary increase in dues to enable us to balance the deficit caused by the absence of so many of our members in the service.

While our membership has been materially diminished in consequence of the entry of so many men into the service, yet our records show that more members have paid their annual dues and we have more money in our treasury than at any time on the date of our annual meeting.

#### Income.

Balance in bank April 15, 1917.....	\$1,031.82
Deposits during year.....	5,943.11
Total.....	\$6,974.93

#### Expenditures.

Paid vouchers .....	\$4,250.37
Balance in bank April 15, 1918.....	2,724.56
Total.....	\$6,974.93

The Council of the Medical Association of Georgia,

Gentlemen:

For the past six months I have been on active duty with the Army and therefore unable to devote to the affairs of the Association the time ordinarily given to same. While I have been able to exercise a general supervision of the business office and The Journal, yet it could only be during the week-ends.

With the probability of this condition existing for an indefinite period, I feel it my duty to tender to your body my resignation as Secretary-Treasurer of the Association and Editor of your Journal.

I do this reluctantly and with the utmost regret, as no labor has ever appealed to me so much as that of assisting your body in

your work for the benefit of the medical profession of Georgia.

Yours sincerely,

W. C. LYLE,

Secretary-Treasurer.

April 17, 1918.

To the Council of the Medical Association of Georgia:

We, your committee, appointed to audit the accounts of our Secretary-Treasurer, beg leave to make the following report:

After a careful examination of the vouchers presented from 448 to 488, inclusive, together with the statement from the Merchants Bank of Augusta, Ga., we find that the Association has a balance on April 17, 1918, of \$2,642.92, against a balance of April 15, 1917, of \$1,031.82, which show two and a half times more money on hand than at any annual meeting in the history of the Association.

For the Council:

W. L. Champion,

J. O. Elrod,

J. E. New.

The following amendment to the constitution was proposed:

To amend Article X as follows: "The amount of the assessment shall not exceed the sum of \$5 per capita, per annum."

This to lie over to the next annual meeting.

Amend Article VIII to read: "First Wednesday in April instead of third Wednesday in April."

To lie over.

Approved.

Meeting adjourned.

W. C. LYLE,

Secretary.

#### MEDICAL ASSOCIATION OF GEORGIA, GENERAL SESSION.

April 19, 1918.

The reports of the House of Delegates were received and adopted. The Association proceeded to the election of officers and the following members were elected:

President, J. W. Pahner, Ailey.

Vice-President, George R. White, Savannah.

Vice-President, L. B. Clarke, Atlanta.

In order that the Councillors might be elected according to the number of their

districts in rotation, it was moved that Councilors for the ninth, tenth, eleventh and twelfth districts be re-elected for a period of two years. Motion carried.

The following members were elected:

Delegate, Dr. Stewart R. Roberts, Atlanta.

Alternate, E. C. Thrash, Atlanta.

Delegate, Dr. H. H. Martin, Savannah.

Alternate, A. G. Fort, Tifton.

Atlanta was selected as the next meeting place of the Association.

Upon motion the meeting adjourned until the next annual meeting the third Wednesday in April, 1919.

### RESOLUTION.

Whereas, Dr. J. L. Kennedy, a member of the Tattnall, Evans County Medical Society, a physician and citizen of high standing; and, whereas, it has pleased the Almighty God in His infinite wisdom to remove the beloved from our midst.

Be it resolved, first, That we, a committee of the Tattnall, Evans County Medical Society, extend to his bereaved family our heartfelt sympathy.

Second. That the society and community at large have sustained a very great loss in his death.

Third. That while we bow in humble submission to the will of Him who cannot err, we will ever cherish the memory of our deceased brother.

Fourth. That a copy of these resolutions be spread upon the minutes of the society and a copy be sent to the family of the deceased and copies be published in The Claxton Enterprise, The Glenville Enterprise, Tattnall Journal and the Georgia Medical Journal.

B. E. MILLER,

J. WALLACE DANIEL,

B. E. DANIEL,

Committee.

formula does not indicate the proportionate amounts of the several sulphocarbolates, because the name is therapeutically suggestive and an invitation for the use of the preparation by the public and because exaggerated therapeutic claims are made for it. The claims which are made are most extreme; they contrast sharply with the low esteem in which the phenolsulphonates (sulphocarbolates) are generally held. It does not appear that the claims have been substantiated by proper evidence.—(Jour. A. M. A., Dec. 19, 1914, p. 2247.)

**Cypridol Capsules.**—Cypridol capsules, sold by E. Fougere & Co., New York, are stated to contain mercuric iodide dissolved in oil. The Council on Pharmacy and Chemistry refused recognition to Cypridol capsules because they were sold under unwarranted therapeutic claims and because they were marketed in a way to appeal to the public. If the capsules are once prescribed the directions on the bottle and the full instructions for the treatment of syphilis which accompanies the bottle is likely to lead the patient to attempt to treat his malady on his own accord and thus probably forfeit his chances of a cure. Physicians who want to use a solution of mercuric iodide in oil, should have their pharmacist prepare it for them.—(Jour. A. M. A., Dec. 19, 1914, p. 2247.)

**Alborum.**—Alborum is sold by the Whitehouse Chemical Company, Lynchburg, Va., and is stated to contain boric acid, alum, phenol and oil of peppermint, the amounts not being declared. This preparation lacks originality and is unscientific. Its exploitation being held contrary to the best interests of the public and the profession. Alborum was refused recognition by the Council on Pharmacy and Chemistry.—(Jour. A. M. A., Dec. 12, 1914, p. 2149.)

**Intestinal Antiseptic W-A.**—The Abbott Alkaloidal Company, advertises Intestinal Antiseptic W-A as “\*\*\* A scientifically blended and physiologically adjusted mixture, of the pure sulphocarbolates of calcium, sodium and zinc, grs. 5, with bismuth subsalicylate, gr. 1-4 and aromatics.” The Council on Pharmacy and Chemistry refused recognition to this proprietary because the

**Keller's Tuberculin Test Plate.**—This appears to be an attempt to exploit the Moro tuberculin ointment. The test does not discriminate between active and latent tuberculosis. As most adult persons have experienced tubercular infection at some time in life, a majority of persons will respond positively to the test.—(Jour. A. M. A., Dec. 19, 1914, p. 2250.)

**Betul-ol.**—Betul-ol is a methyl salicylate preparation advertised by E. Fougere & Co., New York, to physicians and, indirectly to the public, as an external analgesic and anti-rheumatic. It was refused recognition by the Council on Pharmacy and Chemistry because the statements regarding its composition are vague, misleading and incorrect, because unwarranted therapeutic claims are made for it, because the recommendations are likely to lead the public to the self-treatment of rheumatism, with serious consequences.—(Jour. A. M. A., Dec. 12, 1914, p. 2149.)

**Cystogen, Cystogen Aperient and Cystogen-Lithia.**—Cystogen is the therapeutically suggestive name applied to hexamethylenamin by the Cystogen Chemical Company, St. Louis, Mo. By means of extravagant claims, unwarranted assertions and pseudo-scientific arguments the Cystogen Chemical Company advises the use of Cystogen Aperient or Cystogen-Lithia or all three in a well-nigh endless number of diseases. The promoters take good care that every Cystogen prescription is likely to spread the Cystogen gospel among the people. In announcing the rejection of these products the Council on Pharmacy and Chemistry calls attention to the conservative discussion of hexamethylenamin which appears in its publication "Useful Drugs."—(Jour. A. M. A., Dec. 12, 1914, p. 2149.)

**Cysto-Sedative.**—Cysto Sedative (Strong, Cobb & Co., Cleveland, Ohio), is said to contain thuja occidentalis, pichi, saw palmetto berries, triticum repens and hyoscyamus. Cysto-Sedative was refused recognition by the Council on Pharmacy and Chemistry because unwarranted and preposterous claims were made in regard to its preparation and because unwarranted therapeutic claims were made for this unscientific mixture.—(Jour. A. M. A., Dec. 12, 1914, p. 2149.)

**Ergoapiol.**—Ergoapiol (Martin H. Smith Company, New York) is a mixture put up in capsules, each of which is said to contain Apiol (Special M. H. S.) 5 gr., Ergotin 1 gr.,

Oil Savin 1-2 gr., Aloin 1-8 gr. Examination indicated that each capsule did not contain 5 gr. apiol, but an oleoresin of parsley seed. The recommendations in the advertising matter invite its indiscriminate use. The Council on Pharmacy and Chemistry refused to recognize this unscientific mixture of ingredients which has widely differing therapeutic effects.—(Jour. A. M. A., Dec. 12, 1914, p. 2149.)

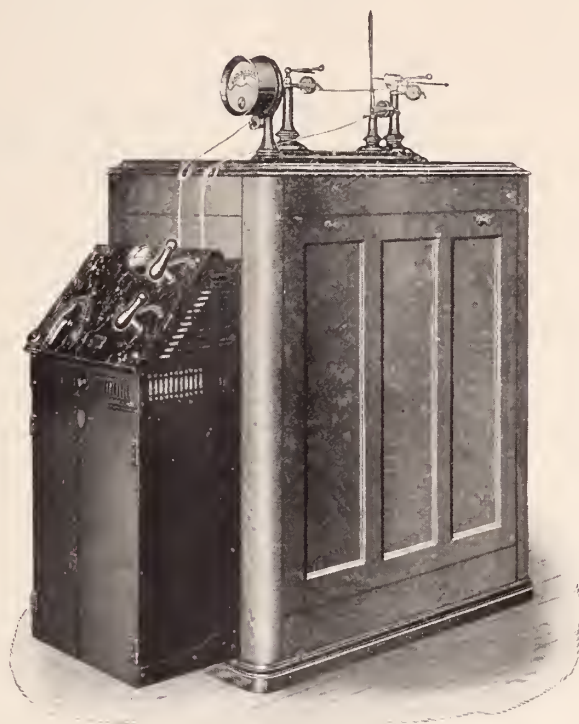
**Apergols.**—Apergols, put out by H. K. Wampole Company, Inc., is apparently an inversion of the name Ergoapiol and the preparation appears to have essentially the same formula. In general the claims made for Apergols are the same as those made for Ergoapiol. The Council refused admission to Apergols because they are advertised indirectly to the public, because of unwarranted therapeutic claims, because of the non-descriptive name and because the product is unscientific.—(Jour. A. M. A., Dec. 12, 1914, p. 2149.)

**Warner's Safe Remedy.**—"Warner's Safe Remedy for the Kidneys and Liver and Bright's Disease" is reported by the A. M. A. Chemical Laboratory to contain alcohol, by volume, 14.40 per cent; glycerin, by weight, 7.72 per cent; potassium nitrate, 1.75 per cent, and vegetable extractives. This preparation consists essentially of alcohol and potassium nitrate. Alcohol is contra-indicated in inflammatory diseases of the kidneys and potassium nitrate is a kidney irritant. Sufferers from kidney diseases who take Warner's Safe Remedy will shorten their lives.—(Jour. A. M. A., Dec. 19, 1914, p. 2246.)

The more money The Journal of the Medical Association of Georgia makes out of its advertisements the less it costs the State Association to run the paper. This means that every member of the State Association has an interest in the advertising columns. If one business firm advertises and another does not, patronize the one that does. It is money in your pocket.

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The Journal is owned and published by the Association, and all profit goes to make it better. Each member of the Association is financially interested in The Journal to the same extent as every other member, and each member is rightfully anxious for the financial success of the publication.

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The advertisers cannot continue in business without the patronage of the medical profession.

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# THE JOURNAL

OF THE

## Medical Association of Georgia



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Editorial and Business Office, 1122-1123-1124 Lamar Building. Subscription Price, \$1.00  
Entered as second-class matter, Aug. 4, 1911, at the Post Office at Augusta, Ga., under the Act of Mar. 3, 1879.

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VOL. VIII.

AUGUSTA, GA., JULY, 1918

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## VALUE OF A COMMISSION FOR THE STUDY AND CONTROL OF CANCER.\*

J. L. Campbell, M.D., F.A.C.S., Professor of Surgical Anatomy and Chemical Surgery, Medical Department of Emory University, Visiting Surgeon, Grady Hospital and Wesley Memorial Hospital, Atlanta, Ga.

In an article by Dr. Frederick L. Hoffman, of the Prudential Life Insurance Company, published in The Spectator March 22, 1917, we find the following statement:

"Cancer is much more common than has generally been assumed to be the case; the mortality from the disease throughout the civilized world exceeds 500,000 per annum, and in the United States about 80,000 at the present time. The disease is increasing in practically all civilized countries, and, as a general rule, in all its principal forms or varieties. It is, therefore, strictly within the limits of scientific conjecture that a further

rise in death rate may be expected unless the disease is made subject to more effective methods of treatment and control."

Malignant tumors are among the oldest known afflictions of civilized mankind. The history of cancer can be traced to early Greece, India and Egypt. Unquestionably Hypocrates was fairly well acquainted with cancer of the breast and also recognized the occurrence of malignant disease in certain of the internal organs. Cancer was well known to Galin. Surgical operations on account of cancer were performed by Leonid's about 180 B. C. He was also the first to appreciate the importance of the retraction of the nipple as a diagnostic sign in cancer of the breast.

Previous to the advent of biological science and the development of the microscope, the classification of tumors was mere guesswork and statistics were of little value. It is now nearly 70 years since the statistical aspect of cancer was first discussed in the United States by John LeCommt. Malignant tumors were less common than now, for in Boston the tumor mortality from 1840 to 1844 was 25.9 per 100,000, while from 1900 to 1913

\*Read at meeting of Medical Association of Georgia, Savannah, Ga., 1918.

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it had increased to 109.6. Better diagnostic facilities may, to some extent, account for this enormous increase. The mortality varies in different sections of the country, but very little variation from year to year, except a gradual increase, is noted in any particular section. For instance, in Massachusetts, it increased from 74.6 in 1900 to 101.4 per 100,000 in 1913. In Michigan during the same period it rose from 61.2 to 81.5, while in North Carolina it remained practically the same for the four years from 1910 to 1914, ranging from 47.2 to 47.9 per 100,000.

Cancer and other malignant tumors caused 58,600 deaths in 1915 in the registration area of the United States. In this area the mortality from cancer has risen from 63 per 100,000 in 1900 to 81.8 in 1916. It is estimated that not less than 80,000 persons died from cancer in the United States in 1917.

In our own state we have no enforced vital statistics law, consequently it is impossible to do more than estimate the loss of life from cancer. Dr. Hoffman, in a personal letter to the writer, estimated cancer mortality in Georgia for 1917 at 1,400.

In 1915 there were 196 deaths from cancer in Atlanta, Savannah and Augusta. Three cities representing 11 per cent of the state population, but on account of the number of non-resident deaths occurring in the hospitals in these cities, it is not quite fair to judge other sections of the state by the above figures.

From November 1, 1913, to November 1, 1917, 5,700 patients were admitted to Wesley Memorial Hospital; 112 of these had cancer in some form. Now, if we eliminate the eye, ear, nose and throat cases from the above, we find that about 3 per cent of the general admission to Wesley were for cancer. A good index to the relation of age and sex may also be gained from these figures, for of the 112 cases treated, 74 were females, with an average age of 44, and 38 males with an average of 51 years.

Among insured females in the Prudential Insurance Company's ordinary experience at the ages of 45 and over, cancer was the leading cause of death and the proportional mortality rate at 45 and over was males, 8.5 per cent and females, 17.8 per cent.

Cancer is a disease of the white race. For in the University Hospital, Augusta, Ga., 85 white and 45 colored patients were treated for cancer between January, 1915, and No-

vember, 1917. In Atlanta during a period of 10 years, from 1907 to and including 1916, 594 white and 202 negroes died of cancer. Forty per cent of Atlanta's population is colored. Had the death rate been equal 318 negroes would have died instead of 202. Tuberculosis is a disease largely confined to the colored race and poorer classes of white. In 1915, 158 white and 394 colored people died of tuberculosis in Atlanta. If the death rate had been equal only 221 negroes would have died instead of 394.

During October of last year a circular letter was sent by the writer to the 49 State Medical Associations in the United States asking if there was a committee in the state for the study of cancer, and what efforts were being made to educate the public to the increasing danger of this malady. Forty replies were received. Fourteen confessed that nothing was being done; some of these expressed regrets.

In several of the other states there is no special committee, but good work is being done, either through the State Journal or the Board of Health. This is notably true in Kentucky, where a bulletin on the control of cancer has been widely distributed among women's clubs and other public organizations. The public press has printed articles and editorials on the subject and the state has been well covered.

In Virginia public lectures have been arranged at different points and special discussions at the annual meetings of the Medical Society.

Alabama and Florida has no commission, but in the former public lectures have been given and distributed well over the state. In the latter one page of the State Journal has been devoted to the subject each month.

In New York the work has been left largely in the hands of the American Society for the Control of Cancer, and speakers from this society have delivered lectures to the district medical societies throughout the state. The State Journal has also devoted special space to the subject.

In Vermont special clinics for the doctors have been arranged, and lectures with lantern slide demonstrations given to the public. In many of the larger cities the meetings were well attended and the people seemed enthusiastic.

In twenty of the states replying to my letter there are more or less active commis-

sions at work and efforts are being made to interest the public in the importance of early treatment in cases of suspected cancers.

In Kansas a woman's club in each city was asked to devote a special meeting to cancer. Literature was furnished them from which they were to prepare their own data, or a speaker was provided for the occasion. Each county medical society was asked to hold at least one public meeting annually where a speaker was furnished, or one of their own members was selected to make the address.

In Texas the work has suffered for lack of funds, but the commission under the direction of Dr. R. W. Knox, of Houston, is doing some good work.

Louisiana has an active commission; the parish societies are urged to hold public meetings, and literature is furnished to the public schools. The American Society is giving material aid.

Illinois is doing work along the same line. Pennsylvania has been active for ten years. Massachusetts has a permanent commission for the control of cancer, which is also working with the American Society. In nearly all the 20 states more or less work along this line is being done.

Cancer is the only serious malady that is increasing in frequency. The mortality rate from tuberculosis has been decreased about 25 per cent in the last ten years; where cancer has increased at about the same rate. If the public can be interested in cancer as it is in tuberculosis many lives can be saved annually and many more prolonged and made comfortable. The time is at hand when the medical profession of our state should act in this matter.

A committee, backed by the Medical Association, can have great influence for good.

It can stimulate activity in the county societies by furnishing literature and material for public meetings.

It can stimulate interest in social organizations, such as Women's Clubs and societies of various kinds. The National Association will co-operate in every way possible and will furnish lantern slides and charts for such meetings.

It can stimulate the lay press to greater activity and furnish literature for editorials and news items.

And last, but not least, it can collect an exhibit of case histories and specimens that

can be used as a means of education, both to the profession and the public.

The American Society for the Control of Cancer is ready to furnish bulletins to as many as will ask for them. Dr. Frederick L. Hoffman has written an excellent book on the subject entitled, "The Mortality From Cancer Throughout the World," which can also be had by writing the Prudential Life Insurance Company. I am indebted to this work for much of the data used in this paper.

324 Candler Building.

## THE CONTROL OF CANCER.\*

By George R. White, M.D., F.A.C.S.

The control of cancer is a subject that has been with us a long time, but it has suddenly taken on a new interest. At this time when we are taking stock of our national resources in order to conserve man power and material wealth we are met at the outset with the cancer problem which is a waster with totals beyond the reach of the imagination even in these times when we are becoming accustomed to the stupendous.

That the importance of the subject in this connection is realized in some quarters is shown by the fact that the Committee of National Defense of the State of Texas has entered into an active anti-cancer campaign, placarding the state and filling the newspapers with articles calling attention to the cancer menace and the methods of combating it.

In presenting and emphasizing this subject at this time, it is not to detract from the great work into which we have all put our whole heart and soul, but to reinforce in a very practical way the conservation of our resources. The doctor who can save a patient from a cancer illness and a cancer death, keeping him a producer instead of a consumer, is "doing his bit" in no small degree.

The main facts regarding cancer are well known to medical men: It is a disease without a specific remedy. It is neither contagious nor hereditary, but selects its victims in an apparently lawless and erratic manner, but following an indefinite law by which

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the most civilized races are the most liable to its ravages, and if we can rely upon mortality statistics it is increasing at an alarming rate in all civilized countries.

In our country one out of eight of the women reaching the age of 35 becomes a victim of cancer and one out of eleven of the men giving a total of 80,000 per annum for the United States. If we figure out the average of the years of illness preceding a cancer death, the loss of production during that time and the loss of productive years from an untimely death and multiply it by 80,000 we have a sum beyond the reach of our imagination and the pity of it all is that the greater part of all this loss and misery is preventable by simple and practical means.

Of course there are some tumors that begin in the internal organs and run their inexorable course with nothing to be done but to accept the inevitable; these cases are in the minority, but speaking generally, there is a precancerous stage to all cancers, a stage in which the growth is something else before it becomes a cancer and in this stage it is amenable to simple treatment or eradication.

We have all watched the growth and development of a cancer on the face. There is first a heaping up of a few epithelial scales, hardly noticeable, which later becomes a papule with a waxy base, then a scab forms on the top and in the following months or years it develops a little ulcer which slowly spreads destroying everything in its reach, eyes, nose or mouth, until the victim becomes an object of horror and loathing.

In 802 cases of these skin cancer analyzed by Bloodgood there was not one in which the growth was not grafted upon some other abnormal condition and which could not have been easily remedied in the precancerous or early cancerous stage.

The same principle holds elsewhere. In the uterus we usually have the history of an irritation from an old laceration manifest by a leukorrhea or an abnormal flow at or after the menopause. In the stomach cancer is preceded by a period of chronic indigestion that possibly could be cured if taken in time. And in the breast there is the lump which has perhaps been there a long time, painless and apparently harmless, but which increases almost imperceptibly until the full-grown cancer is formed.

In all these cases there are warnings of approaching trouble if rightly understood; unfortunately the warning is not pain. If it were there would be no great cancer problem, but warnings there are and clear and definite enough if they are but heeded.

Statistics from the large hospitals show that the average time from the discovery of the cancer by the patient until competent advice is sought is one year, with men greater offenders than women, and this seems to hold in other countries besides our own.

With our present cancer situation it would seem theoretically that the control of cancer might be a simple affair. We have but to eliminate the year of waiting after the cancer is discovered, and heed the early warning. By the age of 35, all warts, excrescences and benign tumors that should never have been tolerated that long should be removed. All skin lesions which may subsequently produce cancer should be eradicated. And the method of eradication is unimportant, whether by knife, cautery, radium or cancer paste, provided this latter be used early enough and thoroughly enough and not applied in cases in which it is not adequate to the task.

The lacerated, eroded cervixes should be repaired or amputated and the cases of chronic indigestion, though a much less promising field should be given the benefit of advanced medical or surgical treatment after an X-ray examination.

There are no new methods of dealing with cancer; surgery has gone its limits; X-ray and radium often only raise false hopes and the research laboratories seem as far as ever from giving us a specific, but we have in our old methods relief from the most of the evil if we would but use them. But the question arises: How can we do anything unless we can get hold of those affected with the precancerous lesions? And the answer to that involves the whole subject of cancer control. We can not do it all at once. We can not get all the cases, but we can do something, and if anything is accomplished the organized medical profession must do it.

We need the co-operation of everybody; we need a good active committee representing each district in the state. The committee can act for the state at large, and each individual member can be the director of the work in his district. The local societies can be urged to join in a publicity campaign

and the individual doctors interested enough to talk "cancer" whenever opportunity presents.

There are some dark spots in our own profession that need looking in to. Statistics from some of the large clinics show that a considerable per cent of the delayed cancer cases were given bad advice by their attending physician, who either from ignorance or cupidity counselled palliative treatment.

The organized nursing profession can be made a factor in this campaign as the relation between the nurse and the families in which she is employed gives her an opportunity to know of many hidden lesions and give much needed advice. Lectures upon the nature and control of cancer should be included in the curriculum of every nurses' training school. Women's clubs, commercial bodies and occasionally the services of a public-spirited citizen all help.

The American Society for the Control of Cancer is organized to aid all efforts along these lines by furnishing information, sending out pamphlets or providing lecturers upon certain occasions.

But after all the newspapers are the great source of education and enlightenment of the public, and just here we see a most deplorable state of affairs. The advertising columns of otherwise respectable papers are loaded with fake advertisements ranting against the cancer victim's only means of salvation in an endeavour to get some of his money at the expense of his life, and the newspaper managers seem to have no compunction in aiding the crime for their share of the spoils. The religious papers are the worst offenders of all.

The papers, however, can be made to exert a powerful influence in the cancer campaign by a little effort on the part of the committee they will publish unlimited information regarding cancer, especially if the articles submitted are backed up by some organized body, and who knows but that some of them will stop their vicious advertising, especially in these times if the matter is presented to them in the proper light.

Like all campaigns for the education of the public it is no use to tell a thing once or twice, but it requires constant repetition from all points of view till the main facts are known and remembered by all.

A campaign of this kind is not a passing fad. It is entirely practical and productive

of results. It has been shown repeatedly that when an intelligent propaganda is carried on in a community the cases come earlier and the death rate is diminished.

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### DISCUSSION OF PAPERS OF DR. CAMPBELL AND DR. WHITE.

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**Dr. J. H. Hall (Atlanta):** I enjoyed these papers very much, as most of my time the last two years has been along this line. It is a horrible thing to see people who at one time had an opportunity to live as other people live and be happy, and then to see them cast to that stage where death would be a relief. I speak more particularly of the epithelial or skin cancer. I make this statement—I do not think it will be contradicted—that there is absolutely no excuse for anybody dying with skin cancer, provided that lesion is treated in time. There are numbers of methods by which you can destroy the small epitheliomas and they will get well, but there is a habit in this country, through the rural sections of saying, "Let it alone; do not bother it." That has been due to the fact that probably efforts have been made that did aggravate the cancer and caused it to grow. But if proper treatment is given and all the cells are destroyed, there is no question but what it will get well; but you can not cure one of them when it has gone too far.

I remember some time ago a very prominent man in America made the statement that radium would not cure cancer. He modified his statement somewhat and said that it was beneficial. I understand that he did not mean that radium would not cure small, early cancers. It will not cure the advanced cancer when too much tissue has been destroyed, but it will cure all these small cancers unless it is in some part where you can not reach it. They can be cured if we can begin the treatment in time. Thirty-six papers in the United States took up this statement and put it in large headlines that radium would not cure cancer. It went into every home, where it started no one knows, although the American Radium Society tried to find out where it did originate. I am entirely convinced that if we will put forth our efforts and when we see these suspicious looking places advise the patients that they might have trouble in the future,

a good many of these would be treated and cured in the first place.

**Major C. C. Harrold (Macon):** We could talk on about the methods of control, but I think the thing to do is for this body to recommend to the council that a committee be organized to bring about publicity on this subject. Unquestionably the newspapers are the way to get at it, and if something is done in the way of giving publicity through one county in each state, over the signature of the Medical Association, I think that will accomplish something; otherwise we will be wasting time.

**Dr. E. H. Jones (Atlanta):** I did not have the pleasure of hearing these papers, but I know in a general way the trend of them. I do not wish to attempt to contribute anything in a scientific way, but nevertheless I think we ought not to pass over an opportunity of this sort to take part in any propaganda that has in view the curtailment of such a dread disease as this. I think if every local organization in the state held a meeting at which the public was invited, and also if newspaper publicity could be carried on in a successful manner, that would go a great way towards impressing upon the public what I am sure Dr. White and Dr. Campbell have said, namely, that people suffering from cancer pass through a curable stage. Another thing that women especially need to know in addition to this is that when the cancer has come to be a painful affection, in all probability no treatment of any kind will avail. I merely rise to commend any effort that may be undertaken to give proper and successful publicity to this campaign.

**Dr. H. M. Lokey (Atlanta):** I agree with the last essayist that the most of these advertisements of cancer cures in the lay press are exploited in the religious journals that we get in our homes. There are a number of religious papers in the state that I have noted myself; in fact, I have brought this up as a matter of the Fulton County Board of Censors, and told them that they are exploiting advertisements of cures of cancers that were absolutely untrue. If we could in some way control the advertisements of cancer cures in the lay press and in our religious journals, if we could get some legislative control on the advertisements of the cures of cancer or any other diseases, the same as we have in the pure food and drug

law, we would have some control over this condition.

**Dr. R. E. Hinman (Atlanta):** In regard to the laws of this state covering advertisements of the cures of disease that law is in existence now; we do not find the greatest difficulty in prosecuting the violator of the law, it is the evader of the law. But I have yet to see a law written on the statute books that the English language will not allow an act committed that will evade the law. I have been engaged for a number of years in trying to enforce the medical laws of this state and I find that it is an exceedingly difficult matter not due to the laxity of those whose duty is to enforce the law, but to laxity of our court procedure.

As to the control of cancer, it is an educational procedure. It is a disease, as we all know, that is preventable in its early stages. To educate the mass of the people as to what this early stage is, that it may be recognized as a precancerous condition, is our duty. It is not so difficult to recognize cancer after the cancer is established, it is the precancerous stage—and there is where our duty lies. I know of no better method than suggested by two of the gentlemen preceding me, and that is every year each County Medical Society have one of their members selected to read a paper that shall be published over the signature of the County Medical Society. I offer this just as a suggestion feeling that it will carry some weight and evade violating our ethics regarding advertising. I believe this will be the most practical method of educating the public that I know of. In controlling cancer we control something else. We modify the number of violations of the Harrison narcotic act. The greatest excuse for the use of morphia is that he or she is affected with cancer. Education along this line will help there, too.

**Dr. L. S. Hardin (Atlanta):** Who is responsible for the death of the patients who die from cancer? For a large majority of them, we are. Nearly every woman has a lacerated cervix, and the physician knows of it beforehand. Often a little nodule appears, and we will say, "Oh, watch it; it will not amount to much." It could probably be removed under a local antiseptic then and she would never have cancer. If that fibroma remains in the uterus until she is 45 or 50, then there will probably be a cancerous con-



dition, probably a large mass that extends to the axillary glands—and it is a systemic cancer. It does no good to take off the breast or to take out the uterus then. Consequently we are directly responsible for practically all the deaths that occur from cancer. Our duty is to take these nodules as a precancerous condition. It was stated that the Mayos at the Portland meeting in a paper said that they were curing cancer of the stomach. They did not say any such thing. They said they were taking out ulcers, thereby preventing cancer of the stomach.

No one mentioned the use of radium within the abdomen. I have had several cases where I used the radium treatment in cancer of the gall bladder, or the pyloric end of the stomach and in the cul de sac involving the sigmoid. I put the radium on each side of the mass and in twenty-four hours the radium is removed and the wound closed. A simple cigarette drain should be put in where you remove the ———, because radium produces an excessive flow of serum for forty-eight hours afterwards. Two of these cases are living, one about two years since the operation.

**Dr. E. B. Block (Atlanta):** Did Dr. Hardin mean that a fibroma turned into a cancer?

**Dr. Hardin:** Hantzelman (?) defied the world a number of years ago to show him any cancer that did not start with scar tissue. A fibroma before an operation will set up an irritating condition and you get scar tissue—a lipoma or anything that will give you an inflammatory condition.

**Dr. E. B. Block (Atlanta):** I am interested in the subject from a scientific standpoint. I can not entirely accept Hantzelman's idea that the ectoderm, the endoderm and the mesoderm are interchangeable. There is no doubt that they start from ———, but the converting of a mesoderm into an ectoderm is not a thing that takes place later in life. It is a question in my mind whether a fibroma can really become a carcinoma. I agree, of course, that scar tissue exists, but that an ectoderm or endoderm may eventually produce carcinoma, or that a mesodermic tumor can become a carcinoma, I have my doubts. I am quite familiar with the Hantzelman idea in regard to the interchangeability and the importance of differentiating between the dif-

ferent germ plasms, but I still feel somewhat doubtful of this, in consideration of recent scientific work.

**Dr. J. L. Campbell (Atlanta):** This paper did not contemplate a discussion of any particular treatment of cancer or the symptoms of any cancer or the location of cancer in any part of the body. Since Dr. Block raised the question of the presence of the fibroma producing cancer or becoming cancer, my idea on that matter is that the presence of the mesodermic tumor in the neighborhood of the ectodermic or endodermic cells may so irritate those cells that they may revert to the embryonic stage and include this tumor and consequently be the active cause of cancer. I may be wrong, but that is my particular idea of why a fibroma should be removed in any particular part of the body and early.

Dr. White brought out the question of the economic value of the prevention and control of cancer, that is, the enormous expense of the cancer patient to the community. In his paper he stated that a cancer patient usually lived after discovering the disease. I have seen statements at various times that two years is the practical limit of life after the discovery of the disease. If we take into consideration that the last eight or ten months that disease not only takes the patient out of economic life, but he is an expense to the family and to the neighborhood—when we remember that there were four hundred deaths from cancer in Georgia last year, we can readily calculate the enormous expense that cancer is to a neighborhood. Of course, tuberculosis is a greater expense, heart disease and various other diseases may be ranked very high from a mortality standpoint, but cancer is so much more easily prevented if it is recognized early and treated properly.

As to the religious papers in Atlanta—I am well acquainted with the editors of both these papers and I feel confident they will co-operate with us to the fullest extent in giving this matter publicity. Anything that is published in a religious paper is believed absolutely to be true. I am sorry to say that religious papers do publish quack advertisements, but they do so innocently in most instances. I feel certain that if a commission is properly appointed, it can reduce the death rate from cancer, at least in the next two or three years, 50 per cent.

## A PLEA FOR THE CONSERVATION OF HUMAN MILK.\*

By W. L. Funkhouser, Atlanta, Ga.

This society has not been burdened with papers on infant feeding. I had occasion to review the transactions of the State Association for 32 years, during which time there has been very little written.

Every two or three years from 1899 there has been before the society a paper dealing with infant feeding. Each of these has recognized the advisability of using mother's milk when possible and some reference has been made to the use of wet nurses, but none with special reference of safeguarding mothers' milk. The papers of the American Medical Association have dealt largely on the modification of cow's milk, with so little on breast milk, that at the meeting in Chicago in 1908 a resolution was adopted, making it obligatory on the program committee of the Section of Diseases of Children to devote as much time to breast feeding problems as upon artificial feeding.

When we recognize the fact that the mortality of the artificially fed is 15 per cent over the breast fed, it behooves us to give more time to consider the protection and care of the human breast, thereby lowering this mortality. If we would but stop to consider the frightful infant mortality that now exists, we can but realize our responsibility. The mortality in the United States of children under one year of age in 1914 was 172.07 per 1,000. Of the entire population children included 16.6 per 1,000. St. Louis in 1916 held the lowest infant mortality, that of 89.4 per 1,000, with 14.5 for the entire population. The corresponding figures for New York was 93.9. Baltimore held the highest record, 118, for infants under one year and 17.3 for the entire population. We can readily see that by a reduction of this unnecessary infant mortality, mortality as a whole will be very greatly reduced.

In order that we may more keenly appreciate these figures we may say that the annual birth rate in the United States is two and a half million, of whom 250,000 die before they reach their first year—that one out of every eight children never reach one year

of age. Is this nature's plan? Should a man 70 years of age stand a better chance to reach his 71st year than an infant to see his first birthday? There are enough deaths under one year of age, if saved for ten years, to populate a city the size of Chicago or a state the size of New Jersey.

My plea today is for the conservation of mothers' milk. Great minds have labored in an effort to find a substitute or a modification so adjusted that the little one can thrive as well as on mother's milk. Chemically and theoretically the adjustment may, within narrow limits, simulate mothers' milk, but we know that chemically we fail to get the desired response from the little one to our scientific product. This has been true in normal times when milk could be obtained with more ease, a purer product and at a lower price. Now that the world has been thrown into a holocaust of blood, scientific research is at a standstill. Our country is being put to the supreme test, which if the end is not near must face a situation serious, solemn and critical. Every resource must be conserved. The future of America depends on the little ones we bring into the world. The high infant mortality must be reduced. The present 15 per cent mortality of bottle fed babies over breast, will increase during war times from poor food, ice shortage and high prices. It is the prevention of this increase and an earnest appeal for a reduction of the present too high mortality that I appeal to you today.

It is not my intention or desire to say to you which cases should be nursed in spite of the condition of mother or child, but to assure you that more can be nursed or furnished with breast milk than are **now**. It will take time, patience, persistence, determination and insistence to accomplish this end. But now is the time, gentlemen, for us to conserve at any cost. It is our moral and patriotic duty to give the child of today every opportunity to live, to grow strong, to develop into the finest possible specimen of manhood and womanhood to take the place of our physically fit who will be exterminated by this cruel war and to offset the physically unfit left to re-establish the America of tomorrow. This is a serious problem we are facing. It is incumbent on us to do our most at this crisis. Our ranks are depleted now, will be more so from time to time until we may all be in the service, so

\*Read at meeting of Medical Association of Georgia, Savannah, Ga., 1918.

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we must be rapid and untiring in our efforts, first, to know what to do ourselves, teach the mothers and develop at once a feeling of confidence that most mothers can not only nurse her baby, but help supply others.

Having recognized our duty, we must enter this campaign with a determination to save every baby. Not that we have not endeavored in the past, but when we have tried the breast with apparent failure, we try a food or modification rather than intensifying our efforts toward the breast or pressing into service the milk of some mother who could well develop her breasts to serve several besides her own.

As we enter each case a careful resume of the life and habits of the mother must be gone into. The mother with her first child is weak, nervous and anemic, is fearful that she will not be able to nurse her baby. This makes poor milk. The baby is colicky, fails to gain. The mother becomes more nervous, loses sleep, gives poorer milk. We must assume charge with assurance and confidence, use a complemental feeding of a food adjusted to the baby, take the mother in hand, determine the quality of her milk upon examination, give her ample sleep, rest, outdoor exercise and then let her feel that you can take care of her baby on or off the breast, but that she can and will be able to nurse her baby. Many will surprise you by quick and rapid return to all time nursing of a good quality of milk. The result is a happy mother and well baby.

Ingenuity in handling each case is called into use in accomplishing this end. I wish to say from my experience that I am from year to year getting more mothers to nurse their babies. I have succeeded in getting mothers to return to part or whole-time nursing after having discontinued nursing. Therefore, I am insistent that only after every possible means has failed, should we resort to any other feeding.

I recognize the fact that it is absolutely impossible for some mothers to furnish sufficient milk in the quality or quantity to maintain the normal development and growth of her young. It is incumbent on us to assume the responsibility of substituting a food for the mother's milk. It is here the officious neighbor, the meddlesome relative, ignorant nurse or inexperienced physician shines. I

failed to mention the patent baby food detail man; he shines too. Have you not had them tell you of going out with Dr. X to see a baby advising the use of the food he was selling, with such gratifying results that Dr. X has used no other food since?

Gentlemen, do, if you are going to substitute a food for breast milk, learn that all food contains fat, proteid and carbohydrates. Knowing the requirements for the normal child of the given weight, age and condition strike your own trial formula and adjust according to symptoms and results.

There is no trouble about getting Wassermann done now at a reasonable cost (in fact most state boards of health are doing this work), and I understand it is in the program for our state at an early date. Therefore, we have no reason to bar mothers' milk to starving infants in our midst. It is not difficult to find well-to-do mothers who would gladly be a donor, provided she is not subjected to the dangers of having a sick or delicate baby being brought to her. The poor or ignorant class will part with their milk for a fee, the customary price being 10 cents per ounce. With this class the milk must be expressed under the direction and observation of a nurse or responsible representative of the recipient for the safety of the baby from lack of cleanliness or substitution. The city or county physician for charity cases can have collected in this way breast milk which may be kept as cow's milk and if judiciously used may swing the balance in a number of cases.

This is a great fuss over a lot of sorry little specimens, say you? Gentlemen, this may be, but we owe it first to ourselves to clear our responsibility next to the parent who generally values the life of her little one beyond price, and lastly to our nation, especially at this time. I can vouch for this method on a small scale, the Chicago and Boston men on a large scale, and we have all to a more or less extent, but I wish at this time of all times to impress upon myself and you to spare no pains, time, effort or money to re-establish a failing breast and utilize an oversupply of one mother for the shortage in another. Remembering first, last and always that no patent, proprietary or modified food can give the foundation for a strong, healthy American citizen as can be found in the human breast.



## DISCUSSION OF DR. FUNKHOUSER'S PAPER.

**Dr. W. A. Mulherin (Augusta):** I think Dr. Funkhouser has given us a very practical and interesting paper on a most important subject, and I think he brought out quite clearly and convinced us that mother's milk is the best food for babies, as we have all recognized that the Lord can beat us to these babies. One of the important questions is, how we can best conserve mother's milk when we have it. I think the physician ought to encourage mothers to nurse their babies more. There are lots of mothers who can nurse their babies and would do so if they were encouraged to do so. If they were convinced that they could and determined to do so, they would usually do it. Another point is the psychic effect on mother's milk. If a mother has a grave sorrow or shock, the breast milk will oftentimes rise up. If that be the case, we can encourage the mother to produce more milk. You have often been told by mothers, "If you let me drink plenty of tea, I can give more milk than the baby can consume." Now it is not from the tea, because tannic acid is an astringent, but it is the psychic effect; and the same way about beer. This shows the effect of the mental attitude and that we should encourage mothers to nourish their babies.

As to diet, Huebler of Detroit, has demonstrated that if you give the mother a high protein diet—where the protein rate is one to five—she will produce much more milk. He has demonstrated that in Detroit where he has a human dairy. He has the poor unfortunate women who have illegitimate children and they first nurse their babies and after the babies are satisfied then they milk their breasts, and some of these mothers have given as high as a quart a day. This is put in a general fund to supply babies with human milk. We tried that at the Children's Hospital, something on the same plan, and it is practical. We had some children that would not thrive on the general formula we would give them, and they were going down hill. I made up my mind to get a little breast milk and put an advertisement in the paper to get wet nurses to come. We saved these babies' lives in this way. We paid five cents an ounce, or about eighty cents a pint, and it saved the children's

lives. One woman gave forty ounces after she had nursed her baby.

I would strongly advocate and emphasize the point that Dr. Funkhouser has made to by all means get breast milk for the babies, because it will lower the mortality and be in keeping with the government's wishes at present. When we do that we will have better pediatrics in Georgia.

**Dr. E. B. Block (Atlanta):** This is a most valuable and important paper, one that is of supreme importance at this critical time in our country's history, and I fully agree with Dr. Funkhouser in his remarks concerning mother's milk. Dr. Funkhouser quite rightly emphasizes the value of the Wassermann test with the idea of determining the fitness of substituting one mother for another. That unquestionably should never be omitted, as a positive reaction would mean that the milk should not be used for a child who was not the child of a syphilitic parent. Quite on the other hand, if the reaction is negative, it does not mean that the milk is suitable for the child. A few days ago a boy was brought to me for epilepsy, and the Wassermann was negative. The mother had a history of one miscarriage, the child had glandular enlargement, positive Hutchinson teeth, and the history entirely outweighed the Wassermann. Therefore, we run a great risk of infecting other children with syphilis as well as other diseases. I do not want to minimize the value of Dr. Funkhouser's paper, and I do not want to minimize the importance of its consideration.

There are various methods of increasing the mother's milk, and I want to mention particularly a rather curious thing, and that is the administration of a mammary substance to produce increase of flow. This is quite contrary to what we would theoretically expect, but it does increase the flow of milk. One would think, on the contrary, that it would discourage it, but it does not.

It is not at all necessary when it comes to a pinch, where you must have mother's milk, that we should only look for mothers among women who have recently given birth to children to obtain this milk. Any young woman is capable of giving milk and under proper training will give milk. If you allow a baby to suckle any young woman four times a day for two weeks, you will get milk; therefore, it is always a possibility to

obtain a sufficient supply to nourish every child born into the world.

**Dr. Francis S. Bradley (Tifton):** I had opportunity the other day to go to a splendid big stock farm where a man had a wonderful mare who had given birth to a fine colt, and I wish you could have seen the care and solicitude given to that mare and colt. I could not help wondering at the time if his wife was given the same care and protection when her children were born. The mare was not allowed to get too hot or too cold; they did not think of putting her into harness, and I venture to say his wife was in the house right then working a month after bearing her child. Just because a woman is capable of bearing children does not mean that she is capable of nourishing that child. The milk may be good for the child or it may not. The primitive mother was undoubtedly a milk giver. The bottle is almost unknown in rural districts. So I believe the city mother who is not able to give milk for her child is the victim of the strenuous circumstance of city life, and for some reason her nervous physical condition was not sufficiently stable to make her a good milk giver, so I believe if we wait until the children are born, we have waited too long. I do not believe you can do it with medicine always, but if you could go into the home life and find out how much work she is doing, what are the financial circumstances, how many children she has born, I believe you will get at the secret of whether or not they are giving sufficient milk, and whether it is sufficiently good milk to nourish the children. We have never yet given enough time to the social phase, and probably too much to the scientific side.

**Dr. L. B. Clark (Atlanta):** This paper is most opportune and is in keeping with the times in our efforts to conserve infant mortality. Everything that can be done towards saving these children in view of the possible extermination of those soldiers who leave this country for abroad, of course should be and must be done. I approve Dr. Funkhouser's paper very much and would be delighted to be able to feed every child I come in contact with on mother's milk, if it were possible. The question, however, is many-sided. I have experimented with a mammary substance and find it of no use in producing milk. I have not found anything in the way of a drug or medicine that would

improve the mother's milk, either in quantity or quality. But the time to begin conservation of human milk is not after the child is born, but when the physician takes the expectant mother in charge. There are many things to be done towards producing milk and good milk. But this whole question is not altogether concerned with producing human milk. There are numbers of instances in which you may do all you please before and after the birth of the child and you can not produce milk of any quantity or quality. Personally, I have advocated the continuation of breast milk as long as possible, and supplement it with other proper food during the period of lactation so long as there is any milk at all. Mothers sometimes ask me about this and I reply usually by telling them that it is their duty to hold to this milk. There is big psychical effect when the mother is not encouraged to produce milk, and her milk goes. Breast milk is frequently removed from the child by well intentioned practitioners, and some state that the milk is not agreeing with the child, that it causes vomiting or fatty curds in the stools, or too many stools. Instead of adopting such dietetic methods as we have to reduce that fat temporarily, and reassuring the mother that it will be all right, the milk is removed, and the child sometimes dies.

To begin at the beginning, there should be the production of clean, pure cow's milk in this state. It is the unclean milk that kills babies. This statement may not sound very well, but it is true. Babies born in Rhode Island, California, Australia, San Francisco, are entirely different ones from another, and there is no such thing as a milk formula for a child six months of age, or any other age, but the milk must be fitted to the child according to where it lives, and when we take into consideration and understand thoroughly the modification of cow's milk, there will be a great reduction in our infant mortality. If the medical men will learn not to swallow everything mentioned by the detail man who comes into their office with a new kind of food, but will go into the study of infant feeding, using clean, pure milk obtained from healthy cows that have been tested properly, and the milk kept clean by the mother after it reaches home, if all these things are observed and the proper modification is done, our infant mortality from a food standpoint will be reduced very materially.

**Dr. W. L. Funkhouser (Atlanta):** There is no end to the various phases of this subject. My main purpose in bringing this paper before the convention was to emphasize the fact of the advantage of human milk, and that we could get in a number of cases a donor to give a supply of milk which would at least partially nourish the child. It is not always necessary to put a baby on a full time breast milk-feeding—you can build him up to where he can take modified milk. In selecting the donor, it is important that the mother should be examined not only for evidence of syphilis, but for tuberculosis, to have the milk examined for fatty protein, and the whole management of the mother gone into, and in the absence of that her baby examined. In feeding mothers to produce milk, we frequently make bad milk by feeding the mother beyond her caloric requirements. In regard to the different methods of improving the milk of the mother, if you want a baby to develop and gain weight and become happy, you must have a contented mother.

### **BABIES, MALARIA AND QUININE.\***

**W. A. Mulherin, M.D., Associate Professor of Pediatrics, Medical Department, University Hospital, University of Georgia; Visiting Pediatricist, Children's Hospital and University Hospital, Augusta, Ga.**

I wish it distinctly understood that what I have to say is not intended in the slightest way to give offense, or belittle the general practitioner. We all recognize his merit, and fully realize that his path through life is a rough one, and not strewn with roses. In addition to this, I wish to state that it is not my intention to "fault find," but rather to "truth find," and offer a few thoughts I believe to be worthy of serious consideration. My sole purpose, therefore, is to endeavor to obtain "**better pediatrics for Georgia.**"

In the general pediatric work in this grand old state of Georgia of such a grade and character that the Medical Association of Georgia can justly feel proud of it? This is a pertinent and serious question. Personally, I would answer in the negative and say that

in the Union. If this be true, it does not exist—there is not enough time, attention and study given to this most important branch of medicine by the average general practitioner in Georgia.

I do not wish, specially, to single out Georgia in my accusations, for I firmly believe they apply to a large majority of the states cause Georgia physicians for tolerating and practicing any such discrimination against infants and children.

Does the laity know, and fully realize, that this discriminating injustice is practiced against their babies and children? It does not, for if it did, I firmly believe it rightfully would register a very strong protest against the profession.

As a strict matter of equity, is it just for conscientious, reputable physicians, whose pediatric practice will comprise one-third to one-fourth their total practice, to give so little study and attention to this very important branch of medicine? Would it not be a fairer and more just proposition if one-third to one-fourth their study and time were given to babies and children? The babies and children of Georgia, as well as their parents, have an unquestionable right to demand of their family physician an amount of pediatric study, commensurate with the ratio of his pediatric practice to his general practice. If this just claim of infants, children and parents was accorded, and strictly lived up to by the profession of this state, it would prove to be the most effective and decisive factor in obtaining "**better pediatrics for Georgia.**"

Why is it that pediatrics is not a popular branch of medicine with the average general practitioner? The answer is quite clear. The average practitioner does not give it a fair proportion of his time of study, and in consequence does not know enough about it to interest him. I think you will all agree with me that the more a physician knows about a special branch of medicine, like surgery, obstetrics, eye, ear, nose and throat, the more it fascinates him, and the better work will he accomplish in that particular line.

Therefore, gentlemen, begin to properly study pediatrics, and you will find it as fascinating as any other branch of medicine, and you will also have the comfort and conviction of conscience of knowing that you are dealing squarely by the infant and child. Remember that it is their rightful claim on

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our profession to demand a fair apportionment of our study.

If in times of peace these obligations of conserving infants' and children's lives exist, how much more binding and exacting is our duty today, when our nation is passing through such a world crisis, and manpower is at such a premium. We must remember, figuratively speaking, that the babies of today will be the fathers and mothers of tomorrow. The better and more intelligent care we give them now, the stronger and healthier will they be when they mature. It will be well to remember that they will have to take the places of many fine, manly young fellows who are now in France, and the places of many more who will go over to fight for our just conceptions of right. If we desire to serve our country today, in the great struggle for rights, it is our patriotic duty to study pediatrics well, and in every way conserve—one of our nation's most valuable assets—infant and child life.

Reconstruction days, of necessity, will follow the war, and if our nation is to take her proper and merited position amongst the nations of the world, it is the medical profession's obligation to look carefully after the infants and children of today. Let us, therefore, do all in our power to have **better pediatrics in Georgia.**

#### **Malaria.**

I wish to take advantage of this opportunity to call attention to a few points about malaria in infancy. By infancy, I mean the first two years of life. To correctly diagnose this disease in infancy, it is necessary to disabuse our minds of the preconceived ideas of finding the same clinical picture as in the adult.

The chain of symptoms belonging to the **classical triad**—"child, fever and sweating"—is conspicuous by its absence. In place of the chill, a slight coldness of the hands, feet, nose and somewhat pinched features may manifest themselves, but these are more frequently absent than present. Occasionally, in a very young baby with a sharp attack, the chill, as seen in the adult, may be represented by a marked cyanosis or a decided blueness of the whole body, sometimes associated with a convulsion.

The fever, as you know, is quite a constant symptom, the sweating rather uncommon. As regards periodicity of fever, it does

exist in the tertian infection, but not to such a marked degree as in the adult. The estivo-autumnal type can not be diagnosed by its periodicity of fever, as remittency is the general rule. The quartan type we rarely see in Georgia; periodicity, however, should be as well marked in this form as in the tertian type.

**Splenic Enlargement.** Almost every one of our leading text-books on pediatrics state that splenic enlargement is a constant sign malaria in infancy. It is exactly what should be expected when we consider the predisposition to bowel troubles in the summer and early fall months, the delicate and unstable mechanism of the digestive tract, and the sudden and intense infection of malaria. In the great majority of cases, intestinal symptoms are the most prominent ones.

**Gastro-Intestinal Symptoms.** Vomiting and diarrhea are common symptoms and signs in acute malaria in infancy. A large number of general practitioners follow this teaching, and do not feel justified in making a diagnosis of malaria unless the spleen shows enlargement. To avoid confusion, it is well to qualify the words "splenic enlargement." By splenic enlargement is meant a spleen that can be readily palpated. It is recognized in pediatric practice that a spleen that can not be palpated, by an experienced physician, is not enlarged sufficiently to be of any diagnostic value.

I will venture to say that **fully 30 per cent of cases of acute malaria in infancy will show no palpable spleen.** This does not apply to the latent, or chronic type, where the malaria organisms or toxins have had ample time to produce hyperplasia in the splenic tissues. I have, however, seen the latent type with no splenic enlargement, but never the chronic case with no enlarged spleen.

**Masked or Irregular Forms of Malaria.**—It is well to remember the baffling and deceptive clinical picture produced by these cases. Some few cases may manifest themselves with distinctive cerebral symptoms, the picture of extreme nervousness, twitching, retraction of head (due to hypertonia), vomiting, prostration, continuous drowsiness, constipation, will lead one to suspect some form of meningitis.

Again, the **acute pulmonary congestive type**, with an acute onset, vomiting, prostration, high fever, cough, rapid respiration, oftentimes slight cyanosis with physical find-

ings exactly in keeping with a pneumonia, may likewise lead us astray in our diagnosis. Of course, in the pulmonary type we should quickly detect our error when within several hours we find our little patient decidedly improved, with all physical findings of a pneumonia having disappeared. A further confirmation should be forthcoming next day, if no quinine has been given, by a return of the same symptoms and signs.

**Blood Examination.**—The value and importance of the blood examination for the detection of the malaria plasmodium, in malaria in infancy, can not be too strongly advocated. With the chain of the triad—chill, fever and sweating—broken, with the frequent absence of splenic enlargement, with periodicity not any too well defined, but with acute gastro-intestinal symptoms dominating the clinical picture, it becomes imperative to resort to the blood picture for a correct diagnosis. There are many cases in which the diagnosis cannot be made otherwise. A positive finding, of course, spells malaria, but a negative one does not necessarily exclude malaria. It is oftentimes necessary to examine the blood several times before detecting the malaria organism. The best time to catch the organisms in the peripheral circulation is a few hours before the expected paroxysm or sudden rise of fever.

**Pyelitis.**—This disease in infancy and early childhood is frequently mistaken for malaria. The clinical picture of the two diseases oftentimes is strikingly similar. Coldness of hands, feet, nose and pinched features may precede the sudden sharp rise of fever, and occasionally even periodicity may be associated with pyelitis. These little patients are only too frequently profoundly cinchonized with quinine, with no beneficial results, but in many instances with decided detriment to their digestive organs.

The differential diagnoses of malaria and acute pyelitis is quite simple if thoroughness is practiced by the attending physician. A leucocyte count will give valuable information. Pyelitis being a pyogenic infection of the urinary tract, a leucocytosis naturally will be found associated with it. Malaria not being pyogenic will have a normal white blood count. Again, if the urine is examined microscopically, pus and pus in clumps, will be found on the first examination, in the majority of cases, and will clinch our diagnosis. Occasionally a fresh specimen of

urine has to be examined on three or four consecutive days before the pus is detected.

**Typho-Malaria.**—This is an extremely rare disease, and in ninety-nine out of a hundred does not exist when such a diagnosis is made. Blood culture in the first week, or a Widal test after ten days, will usually enlighten you as regards typhoid. A blood examination for the malaria plasmodium, or the therapeutic test of quinine, will tell you if malaria exists. They will not be found to co-exist in the same patient. In this connection, it might be well to mention, **an acute fever that does not respond to full doses of quinine is not malaria.** Some other cause should be sought.

### Quinine.

The general practice of prescribing quinine for all fevers in infants and children can not be too strongly condemned. **Except in malaria, quinine should never be given for fever.** It is a pernicious habit, the giving of quinine to babies because they have fever, irrespective of the cause.

I frequently have seen cases, in infancy and early childhood, where an acute bronchitis with fever was the only illness, and quinine the medication. Later, I have seen these same little cases with the bronchitis gone, but an intestinal indigestion remaining, due to the ingestion of quinine. Again, I have observed cases that were given quinine by the attending physician for various diseases associated with fever. Vomiting was a prominent symptom, even to the extent of interfering with the baby's nutrition, and would promptly disappear when quinine was discontinued.

**Quinine is not a good antipyretic drug,** its virtue in this respect is not very great. It is not well borne by babies and children—Holt to the contrary. It causes vomiting and digestive disturbances in a great number of cases, and its administration to a very seriously ill baby may turn the scales against the little one's chances of recovery. Personally, I never use it except, out of necessity, in malaria.

In cases of malaria in infancy, where quinine has to be given, the watery preparations of the bisulphate, or sulphate of quinine is better tolerated by the stomach than the highly seasoned elixirs or syrups. If the watery mixtures are given on an empty stomach, they produce less vomiting. For this reason it is desirable to give it one hour be-



fore the next feeding, milk and quinine do not mix well. In some cases, on account of vomiting, it has been necessary, and advantageous, to give the quinine only during the night and nourish during the day.

For older children, who can not swallow a capsule, the dose of quinine can be put in a teaspoonful of syrup of sarsaparilla Co, a teaspoonful of syrup of sarsaparilla compound, and given rather pleasantly. The quinine and syrup of sarsaparilla compound should be mixed just before administration. If they are mixed in a bottle and allowed to stand, the bitter taste of the quinine becomes quite pronounced.

If every physician practicing pediatrics would recognize the fact that quinine is not a good antipyretic drug, that it frequently causes vomiting and digestive disturbances, much less of it would be given. Furthermore, if they will make it a rule **never to give a baby or a child a single dose of medicine unless there exist some direct indication for it**, they will be surprised how little medicine will have to be used, and how much better the digestive organs will behave. In short, practical application of good hygiene, correct infant feeding, good nursing, and little medicine will spell success in pediatric practice.

#### DISCUSSION OF DR. MULHERIN'S PAPER.

**Dr. W. L. Funkhouser (Atlanta):** After this war is over it will be necessary to replace the enormous numbers of men who have gone forth, who were physically and mentally fit, and if we are not careful America will be built up largely in the future with those who are mentally and physically unfit. The Civil War left in its waste a class of shiftless, ignorant people known as "poor white trash," and it is a problem what this war will leave, if we do not do all in our power to prevent it. It should be the duty of the criminologist, the sociologist, the educator, the legislator, and medical man and all allied students to co-operate and unite in reducing as much as possible our infant mortality.

It is really a disgrace to the commonwealth of Georgia that we have no operating vital statistics law. When I was living in the Seventh Congressional District, I was a member of the State Board of Health and I was

very much surprised to see the type of men who were opposing vital statistics. We as American citizens have a right to know the diseases to which we are susceptible and the ages at which we are most susceptible. We have to strike an average from other states and apply it to ours, while we should be able to know the real conditions in our state. We all realize that one out of seven children die of preventable diseases, and knowing this it is certainly necessary that we should co-ordinate our efforts to reduce this high infant mortality, and this we can not do without a system of vital statistics.

**Dr. A. J. Waring (Savannah):** I have been very much interested in the discussion of the last two papers. Not many months ago General Powell, in talking to some Canadians, said that the war would be won in 1935, because, he said, the children of today will be the men of 1935. Of course, the nations of Europe realize that much more strongly than we do, but we are paying daily more attention to that point of view. The growth of maternity bureaus, of milk depots and different branches of child welfare work in the different clinics in different portions of the country not so much take care of the child that is sick, but keep well the child that is not sick. That is the idea we must bear in mind, and I think most of us will live to see an amount of interest and work done in child welfare that will be astonishing and that we can not realize today.

I found this paper interesting in other ways, because along with this altruistic side comes the question of the careful study of the individual child. You can not standardize a child—each one is individual. If you do not treat him as individual, you are doing a radical wrong to the commonwealth and injuring a future citizen.

I agree with practically everything Dr. Mulherin has said. Pyelitis is often a secondary manifestation as well as a coincident infection. I had a child last year, a little girl of 3 or 4 years old, who suddenly developed a high temperature, the urine was full of pus, the leukocyte count was high, and I thought it was a simple case of pyelitis. The urine condition improved on treatment, the pus cells disappeared, but her temperature continued about the same. I finally resorted to the use of quinine, and her temperature came down to normal in twenty-four hours. As we know, malaria has often these other



infections with it. A child with chronic malaria is a prey to almost any other disease which comes along, and sometimes we neglect the particular disease which is killing the child.

Quinine should not be used as an antipyretic. We may have future use for quinine in pneumonia; a good deal of work has been done along that line in the Rockefeller Institute. The English use quinine with good effect in pneumonia.

**Dr. L. B. Clark (Atlanta):** I would like to go a little bit further than the statement as to quinine and not being an antipyretic, and say that it has no antipyretic properties, and it has no business to be used to reduce temperature of any kind. Quinine is a destroying agent which will kill the organisms which produce malarial fever. If it is used in pneumonia, it will be a germicide, and not an antipyretic.

Pyelitis does not arise within; it is an external infection. It does not exist in boy babies, save from some irritating substance. I have never seen but one case in a boy baby. It is very common in girls and probably 99.4 per cent of cases are due to ignorance on the part of the mother or nurse in cleansing the baby. The average young mother or nurse knows nothing about cleansing a child from fecal matter; she places the baby on her lap, folds the diaper and rubs it up and down and rubs the infectious material into the vaginal opening, and it finds its way into the kidneys and, therefore, we have pyelitis. I tell the mother or nurse to fold the diaper and wipe down and not upward; that is carrying the infection away from and not towards the kidneys.

**Dr. W. A. Mulherin (Augusta):** In regard to pyelitis, I am very glad that Dr. Waring made the point that pyelitis can exist with other troubles, but I have frequently seen pyelitis as a primary cause. Of course, the common organism is the colon bacillus. So frequently you will find bowel trouble and all of a sudden the temperature jumps up to 104 and 105. You have a latent malaria or pyelitis. Your leukocyte will tell you whether it is pyogenic or not. Right along that line I must mention the fact that if a man is looking for something in medicine he will find it. If he gets the bug of pyelitis, he will find a few pus cells in all urine. Do not make a diagnosis without a clinical picture, because pyelitis does exist without a

very sharp rise in temperature sometimes. I would not make it a point because a few pus cells are found, that it is a case of pyelitis.

In regard to the different modes of infection which Dr. Clark brought out, it should be remembered that there are three methods of infection, one entering by the descending route, and another by the ascending route. The infection may descend through the blood and come into the kidney even though the baby were carefully cleansed. You also have the trans-parietal route—so there are three ways, and while careful cleansing of the baby will in many cases prevent pyelitis, it will not entirely stop it, because it comes from the descending route and through the trans-parietal route.

In regard to quinine having no antipyretic qualities, I would not say it has none, but none sufficient to warrant giving it and upsetting a baby. In regard to its beneficial effect in pneumonia, I do not think that is established as yet, but it is being freely used in the treatment of pneumonia today. If a child starts to vomiting, I think I would rather let it alone.

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### DO YOU KNOW THAT

Moderate exercise in the open air prolongs life.

The U. S. Public Health Service issues free bulletins on tuberculosis.

It is dangerous to put anything into the mouth except food and drink?

Sanitary instruction is even more important than sanitary legislation?

The continuous liberal use of alcoholic beverages lowers efficiency and menaces longevity.

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## DIATOMACEOUS EARTH, A NEW WOUND DRESSING AND DRAINAGE METHOD.\*

By **St. J. B. Graham, M.D., D.T.M. (Harvard 17), A. C. H.**

At the meeting of the Medical Association of Georgia held in Savannah April, 1907, the author had the honor of demonstrating the use of ventilated sheet celluloid to cover wounds. The celluloid not touching the wound, being held above it by gauze packed around the injury and a proper binder applied to hold it in place. This was the first use of celluloid for such a purpose; the literature at the time containing no reference to this application, and I have found none since. This application of an original method was never published. In the succeeding years much time and study have been devoted to try to improve upon this method.

Fully realizing since the beginning of this war that wound dressing material and methods still remained for the most part without improvement of real and substantial value, and being convinced by the needs of the war that a radical change in material and methods were possible, whereby not only a far superior dressing could be evolved, but that one could be perfected which would be capable of saving much money, material, time, labor and pain. Much progress had been made when my home, laboratory, library, instruments and notes were totally destroyed in the great fire in Atlanta a year ago.

My researches have extended to the study of most every conceivable material practicable for this purpose before coming to what you no doubt will agree with me is in the present status of our knowledge, the most perfect material that could be used. These researches have covered experiments with saw dust, treated with steam, with chemicals, charcoal, sponge, spagnum moss, peat, kaolin (silicate of alumina), Fuller's earth, fungi, asbestos, pulp, and finally the ideal—this most wonderful and interesting material, diatomaceous earth, infusorial earth or Tripolite, which is mainly  $\text{SiO}_2$ , Opal or Colloid Silica.

Fossil infusorial earth consists mainly of the frustules and fragments, or we may empty siliceous air castles of minute microscopic plants that lived in the fresh and salt water ages ago in the upper Cretaceous (chalk) during the closing records of the Mesozoic era when Monotremes, Dinosaurs and Magatheria flourished, aeons before the Pithecanthropus erectus sported near his nest in the arboreal shades or Homoneanderthalensis in his struggle for existence fashioned implements of stone and by gnawing a bone developed canine teeth.

For beauty of structure diatoms vie with snow crystals and the most beautiful of flowers, in fact they have been called "Jewels of the Plant Worlds." The word diatom of Greek origin is from *dia* through *temneiv* cut.

The diatomaceae are placed by systematic botanists in the order Bacillariae, one of the larger groups of algae and in evolution a little higher in the social scale than Bacteria, they make chlorophyll. By others they are placed in close proximity to the Conjugatae; or an order of Brown Algae, or Thallophyceae. Still others think their uniformity of structure and characteristics distinctive enough to warrant a class to themselves. Great variety of form is exhibited in their structure, being linear, crescentic, cuneate, sigmoid, navicular, and circular. Diatoms are unicellular plants the protoplasmic vegetative parts being covered by a Siliceous shell or case, consisting of two halves, a top and a bottom, much resembling in form a pill box. Each individual is known as a frustule. The living plants are endowed with motion. Reproduction is by cell division, conjugation and sport formation. The first known forms were disclosed by O. F. Muller about the end of the 18th century. The process of discovery was slow. Agard in 1824 published his *SYSTEMA ALGARUM*. Only 49 species included under eight genera had been described at this time, now over 10,000 species have been studied and recorded, one of the type is familiar to microscopists, being used as a test for the resolving power of objectives. I refer to the *Pleurosigma angulatum*. Their lines are finer than the 125000 of an inch. Vast beds of fossil diatomaceae are found in the United States and many other countries. "The ancient Greeks and Romans made from this earth the so-called "Swimming Brick" and the Emperor Jus-

\*Read at meeting of Medical Association of Georgia, Savannah, Ga., 1918.

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tinian in 522 A. D., ordered the dome of the Hagia Sophia built of brick made of this material to lighten the weight of the structure.

The product from California and Florida is what we have used and here exhibit. The technical use of this material is varied and of great value. One of its first important technical uses was discovered by that great genius, the late distinguished Swedish chemist and renowned philanthropist whose name and fame is justly immortal, Alfred Bernhard Nobel, who found that when nitro-glycerin was incorporated with diatomaceous earth it became safer and more convenient to transport and to manipulate, and he named the substance dynamite.

Buchner in 1877 was the first to make Zymase by grinding yeast cells with diatomaceous earth, compressed out the absorbed Zymase and demonstrated alcoholic fermentation **WITHOUT THE LIVING YEAST CELL**. It is familiar to laboratory workers as filters for toxins, among the best now being the Mandler diatomaceous earth filters. These are also used in biologic study of filterable viruses, and to test the passage of ultra microscopic bacteria (if they be bacteria)?

Other uses of the earth are to clarify any colored liquid, molasses in sugar industry, oils, soaps, glycerin, dyes, lubricating and gas engine oils, fruit juices, vinegar, chemicals, ultramarine blue, and the removal of fine flocculent precipitates, colloidal slimes and the perfect removal of **suspended matter of even microscopic size, from liquids**.

In the removal of acetylene gas from acetylene welding tanks, acetone absorbs the acetylene and diatomaceous earth absorbs 200 per cent and over of acetone, thus removing both.

Ordinary bacteria among them, those pathogenic in wounds, can not pass through a sufficient film or strata of it. The **ordinary explanation** of this is that the pores are too fine and mechanically obstruct their passage. Of course, this is correct so far as it goes, but is it the only real and true explanation? I think not. This substance has colloidal physical properties, the most striking of which is what has been termed **ADSORPTION**, and this in all probability due to its colloidal property; the vast areas of exposed surfaces, with the great development of surface for a given mass; so physical properties

of surface becomes most important. When in contact with liquids, surface tension which is a contracting force continually striving to attain the smallest possible area is developed. It exhibits **Residual Affinity**, which is the power to attract opposite poles and hold in light attachment loosely attached compounds, which may or may not be saturated as regards chemical affinity and still possess Residual Affinity; this physical condition is known as **ADSORPTION**.

Examples are invisible layers of moisture on glass and sulphur, salts in water which can not be separated by the finest filter, occlusion of gases by finely divided metals and spongy platinum. Trypsin adsorbed by charcoal and this earth; the striking quality possessed by **Diatomaceous earth is its power of ADSORPTION of PROTEIN** (of inestimable value for our purpose), casein, egg albumen, proteins of blood serum, bacteria, bacterial proteolytic enzymes and enzymes in general.

Effront, Sven Heden, Michaelis and Ehrenreich have studied this phenomena of adsorption. Freundlich thinks surface tension plays an important part according to which ever colloidal substance is charged positively or negatively it will be directed toward the Cathode (Cataphoresis) or to the Anode (Anaphoresis). Electro positive are precipitated by unstable electro negative colloids, arsenous sulphide, an electro negative colloid is precipitated by ferric hydroxide. Bacteria in general including most of the pathogenic wound infecting organisms carry an electro negative charge like arsenous sulphide and my explantain as to why they do not pass the diatomaceous earth is that the internal friction of the fluid and solid places a positive charge on the colloid filter, and a negative charge on the bacteria, or vice versa. Electric condition is induced by friction of liquids against solids. They are precipitated on the filter and are adsorbed; hence "They shall not pass."

My conception of one of the causes of precipitation in fluids or in moist air is a union of ions of positive charge and ions carrying negative charge forming a potential mass which gravitation acts upon and precipitation therefore takes place, instance, rain.

Diatomaceous earth and other powders in fine cellular condition, chareoal, kaolin, colloidal platinum, spongy platinum act as a fluid in this sense as **water acts in adsorbing salts, by residual affinity**.



As before stated, this earth adsorbs Enzymes, and **while adsorbed, they are rendered inert and inactive, A VITAL FEATURE IN THIS DRAINAGE METHOD.** This substance adsorbs and occludes gases, tubes may be saturated with acetone or other compounds to adsorb the GASES of wounds infected by the anaerobic group of gas forming bacilli, and the gas taken out, oxygen or other gases can be put in.

A filter permeable for colloid AS<sub>2</sub>S<sub>3</sub> retains colloidal. Prussian blue yet does not allow a clear mixture of the two to pass! Why? Were not the particles of AS<sub>2</sub>S<sub>3</sub> adsorbed by the particles of Prussian blue? Residual Affinity being fully satisfied, there **was no affinity for the filter** or vice versa, so the particles can not pass through. They avoid **the filter.** THE PHENOMENA of ADSORPTION of FINELY DIVIDED PARTICLES (Bacteria, etc.), precipitation, adsorption of enzymes and occlusion of gases places properly prepared **diatomaceous earth in the front rank is by far the most efficient substance known and available for use as a wound dressing, whether in war or in peace.**

There is a great difference between solutions and suspensions. Bacteria are in suspension, their toxins, proteolytic enzymes (dissociated ions) are in solution in the fluids in which they are found. No substance can enter a living cell, unless it possesses the energia or is in solution, by physical affinity, affinity of the molecules composing each.

All this teaches us how to treat a wound according to the laws of physics and first principles of bacteriology, and common sense DEHYDRATE!

Bacteria can not multiply, at least so favorably, they can not form enzymes or toxins so quickly, they can not enter the cells so easily. By this method of dressing and draining wounds, not only are the fluids to a great degree removed, but **bacteria**, their toxins, proteolytic and saccharolytic, enzymes, gases and odors are to a great extent removed, at best they are acted upon more certainly and surely than by any method yet in use, and in a way that gives the body cells the best opportunity to survive and multiply and hold their own in the struggle for existence.

Heat and moisture are necessary for the growth and propagation of all pathogenic bacteria.

A few of the advantages of properly prepared diatomaceous earth dressing is its unusual bulkiness and extremely light weight. Vast numbers of enclosed air cells, fine state of subdivision, refractory nature, large colloidal content, white color, insolubility in any ordinary fluids used about wounds, unaffected at red heat, excepting adsorbed water is driven off as vapor and it shrinks. The Bureau of Standards reports its melting (fusing) point 1800 C or 2930 F. According to its dryness it takes up from three to five times its weight of pus or over and **holds it so it does not bathe and mecarte the tissues.**

Diatomaceous earth dressing consists of purified diatomaceous (fossil diatomaceous earth burned out in a furnace, washed and dried) compressed with asbestos fiber to increase tensile strength (Mandler) and hold it together more firmly in the shape of tubes, cylinders, rings, rectangles, squares, and shingles to fit convexities of members, abdomen, etc. For penetrating wounds and for pus cavities the infusorial earth is compressed into solid rods, pencils, and cylindrical hollow tubes, these to fit into specially designed thin glass tubes that carry perforations, the bottom end being open and turned inward upon itself to prevent the earth tube passing through. Some of the glass tubes are closed and the end that enters the wound is pointed and also carries perforations. The inner diatomaceous earth tubes adsorb and remove pus, broken down protein material, bacteria, and proteolytic bacterial enzymes, gases and odors; when saturated it is removed and another replaces it, the glass tube remaining in situ, until healing process shows no longer need. The glass tube is put through a close-fitting perforation in a piece of sheet celluloid which rests on the skin when tube is inserted into wound; this holds tube firmly in place and prevents it slipping in and protects surrounding skin. The saturated tubes, etc., must be allowed to dry out in the air before sterilizing as the generated steam inside may crack them. Dry infusorial earth may be packed very loosely in gauze bags\* or containers of any desired shape or size, sausage or doughnut shapes may be used steril to pack around, not on non-penetrating wounds. Thin sheet celluloid perforated in places and covered on both

\*One gauze pad of the type used here to mop incisions, field of operation, etc., will make from six to twelve bags which, when loosely filled with diatomaceous earth, will make more efficient pads and improve the technique at a great saving of gauze.

sides with fine gauze pasted on with acetone celluloid cement or collodion over the perforations. These small screened windows permit of circulation of air, and allow wound to breathe and vapor passes out. This perforated ventilated sheet of thin celluloid is either placed in a steril envelope of heavy drilling and laced over diatomaceous earth dressing or is bound down by properly applied adhesive stripe that are made to adhere to a previously applied bandage above and below the wound, or to the skin directly if preferable.

**THIS IS A DRESSING THAT DOES NOT TOUCH THE WOUND. NOTHING TOUCHES THE WOUND.** The wound is ventilated and bacteria can not get in or out with ordinary precaution. The upper ventilated spaces may be touched with antiseptics to prevent molds penetrating by growth and carrying bacteria. The wounds can have all benefits of sunlight or electric light and air.

My experiments with photography and the use of a prism prove that celluloid as used does not to any great extent hold back ultra violet, violet and blue light. Sun or other light does little harm to bacteria in fluids or in pus or water, as the energy of the sun or other sources of light, the molecular bombardment, if you please, is used up in evaporating the fluid; when dry the bacteria are promptly killed as all energy is used on them. Celluloid can be scrubbed and placed in most any aqueous antiseptic solution and kept for use. It is mildly antiseptic in itself and it repels the growth of micro-organisms. Experiments made by the writer demonstrate these facts.

Petri dishes containing steril media remain steril and dry up, when properly covered with steril perforated gauze window celluloid. Dishes containing colonies of ordinary pus forming bacteria dry up and die in short order exposed to sunlight through perforated gauze window celluloid.

Glass tubes of new and special design are here shown. The tube or core of compressed infusorial earth is placed inside the glass, the cap put on, and asbestos fiber or steril packing is placed inside to fit tightly, melted paraffin is poured in, the tube is inserted into the wound or pus cavity, and rubber tube attached to the cap, exhaust of air applied by air or water pump or syphon; the pus and gas is drawn out without fear of invagi-

nation or injury to loose viscera, such as intestines, etc. Diatomaceous earth may be mixed with salt, sugar or citrate in order to get the benefit claimed for these substances, and may be applied in the bags above mentioned.

### Summary and Conclusion.

Purified and prepared diatomaceous earth at first cost is the cheapest known material for wound dressings. It can be boiled, filtered and sterilized by baking up to red heat, without any change, hence can be used over and over.

It has distinct and peculiar advantages possessed by no other dressing known at present.

Is light, soft, innocuous and exerts no chemical action. Leaves no marks in the skin, as charcoal may do.

The dressing as described can be applied quicker than any other dressing. Once applied the wound can be always under observation and practically instantaneously.

The wound can always have air and light and moisture is evaporated through gauze windows.

The dressings do not touch the wound, nothing touches the wound.

Change of dressing is **rendered painless** and quick, hence to patient and surgeon it is a great blessing and time-saver.

Dressing is simplified. The tissues are made dry and kept dry. When a change of dressing is necessary, new cells are not disturbed and torn away as in old dressing methods.

Moist and gas gangrene can be scientifically combatted by simple means. Tissues are not macerated, but are kept dry. No cotton is used. A vast saving. One-sixth to one-twelfth the amount of gauze is saved by a substance that costs one-fourth or less. A vast amount of time in dressing and changing dressings and inspecting wounds is saved.

Healing of wounds is promoted and is more rapid and certain and the patient made more comfortable than by any other known dressing.

The method of dressing is the most simple, yet scientific in principle, efficient in action, practical in application and by far the cheapest in cost of any dressing yet devised.

For encouragement and assistance in this work, I am indebted to my wife, Mary M. Graham, to Mr. C. J. Mandler, Infusorial Products Company, Toledo, Ohio. To Mr.



and Mrs. Alex Anderson, of Nelson, Ga.; to Colonel Sam Tate, of Tate, Ga.; to the Celite Products Company of 11 Broadway, New York, Los Angeles, etc., and. To Mr. Henry W. Bishop of Eustis, Florida.

I wish to express my sincere thanks to all of the above.

#### Contribution No. II.

Graham Medical Research Laboratory, Grant Building, Atlanta, Georgia.

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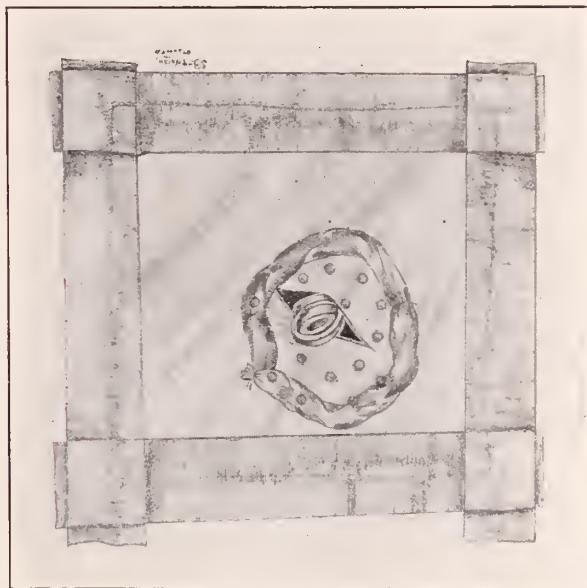
were remedied later. The material will be on the market before very long. It is on the market already in the shape of a filter made by the ——— Products Company of San Francisco, or Toledo. When I discovered the use of this earth it was brought about by the studying this filter. This earth comes from Eustis, Fla. There are vast beds of it and it costs \$15 a ton. \$10 of that is for freight. You can get it there for nothing if you can take it away. If you wish to know more about it, if you will address Mr. C. J. Mandel, Infusorial Earth Company, Toledo, Ohio, he will see that you get a sample free of charge. After that I suppose it will be on the market; it will cost something like two to four cents a pound. Each pound will walk away with six pounds of pus. You can put five pounds of strong sulphuric acid in one pound of this earth and put it in a basket and carry it to Europe and it will not leak. You do not have to have a earboy for it. Then you can put it in a glass tube and exhaust the air and the sulphuric runs out and you have as much earth as before.

#### DISCUSSION OF DR. GRAHAM'S PAPER.

**Dr. —. —. —. (Atlanta):** From a chemical standpoint I can say very little, as Dr. Graham has shot away above our heads; from a practical standpoint Dr. Graham was telling me about this preparation, and I happened to have an old prostate case in the hospital. The doctor gave me four of these little sacks and I tried it and it stuck for twelve hours. There is no doubt but this preparation will really draw pus out of a cavity, which plain ordinary gauze will not do. I think his contribution to the medical profession will be highly honored later.

**Dr. A. B. Little (Thomasville):** I want to ask Dr. Graham if this will be on the market or if any arrangement has been made whereby it can be obtained. I would like to try it.

**Dr. St. Joseph B. Graham (Atlanta):** I have worked two years on this dressing. I tried it on a great number of private cases and some friends have tried it in the Peter Bent Brigham Hospital, and the Massachusetts General, and I have tried it since on animals. At first we found flaws in it which



(1) Wound or abscess or gas cavity dressed with perforated ventilated sheet celluloid. The glass tube carrying the diatomaceous earth core, goes through aperture cut in the celluloid and rim of tube prevents slipping in. Celluloid rests on sausage-shaped gauze bag filled with diatomaceous earth. Zinc oxide adhesive strips holds dressing in place. May be covered by pad of diatomaceous earth.

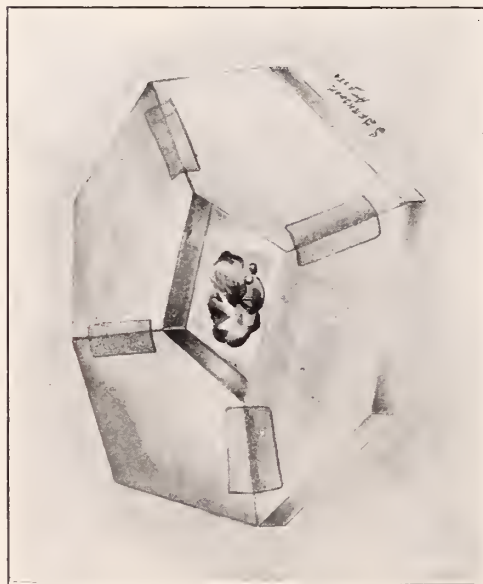




(2) Wound surrounded by voile or gauze pad of diatomaceous earth. Covered by ventilated sheet celluloid carried in envelope in proper fitting laced light duck material, which is adjustable to different sizes of legs, arms, abdomen, etc. Celluloid slips out.



(4) Compressed diatomaceous earth wound shingle or clap board 1 ft. by 6 in., 5-8 in. thick. Emergency dressing for abdomen. One side of wounded member where bones are broken and wound goes all the way through.

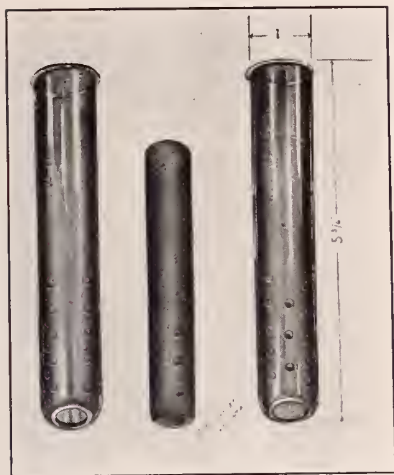


(3) Pentangles of compressed diatomaceous earth surrounding wound held in place by adhesive bands and binder if needed and covered with perforated sheet celluloid held in place by a roller bandage around edges or adhesive strips.



(5) Sausage shaped gauze bag filled with diatomaceous earth. These may be made in any desired shape.

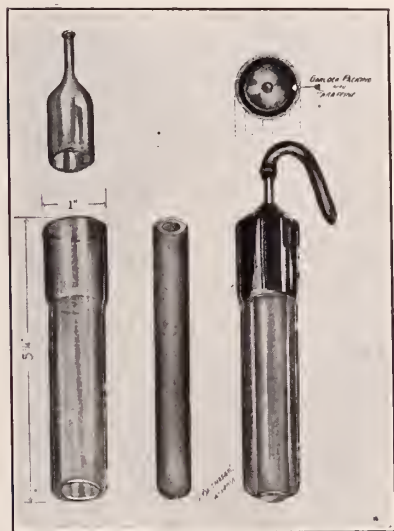
A long pencil of diatomaceous earth may go in perforated glass tube for deep penetrating wounds. A pentangle of compressed diatomaceous earth.



(6) Drainage tube open at bottom and on sides. Hollow cylinder of compressed diatomaceous earth. Cylinder in glass tube.



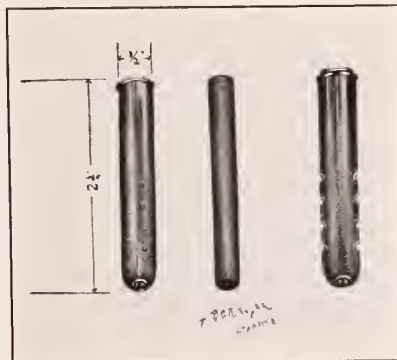
(8) Tube carrying solid cylinder of diatomaceous earth. The glass tube is put through ventilated sheet celluloid and its rim holds it from slipping in. Diatomaceous earth core changed without removing glass tube.



(7) Top and bottom of glass cylinder open at bottom into which fits hollow cylinder of diatomaceous earth closed at bottom. Garlock packing is placed around top, earth cylinder closed at bottom is put in glass tube, top put on and melted paraffine poured in, making aseptic air tight apparatus to withdraw pus, gas and enzymes and fluid. Intestines and viscera can not be caught or sucked in tube connected to source of air exhaust.



(9) Pointed tubes carrying hollow and perforated cylinders of diatomaceous earth. Fits through perforated ventilated celluloid.



(10) Small tubes for small shallow wounds, small cavities and to insert in uterus to drain same thoroughly.

### LEST WE FORGET!

During the Third Liberty Loan campaign there appeared in a New York paper the following advertisement:

#### LEST WE FORGET!

He who can forget the little ones that lie mangled 50 fathoms deep under the shattered hulk of the Lusitania; who has no reverence for the dead and their devotion, no prayer for the dying and their anguish, no pity for the bereaved and the broken; whose blood is not quickened by our perils, whose heart is not softened by our pains; who reads unmoved of blasted homes and wasted countrysides, of desolated cities, and desecrated shrines, of heroic Belgium, overrun but not conquered; of epic France and the noble dead that lie buried there—the great dead that fought and the innocent dead that merely wept and waited. He who can forget these things, or be indifferent to the sacrifices and the sorrows, the bereavements, and the burdens of Freedom's Gethsemanes—that man is a Hun at heart, for the crimes that none but a Hun can commit, none but a Hun can forget!

#### IS YOUR LIFE A HARD ONE?

Do you people at home feel at times that this war has made your life pretty hard? Read what an American correspondent writes about one of our boys who had been doing his duty:

"In a little field hospital west of Montdidier I stopped at the bedside of an American boy, one of those victims of the German mustard gas, with which the Huns are making all their present gains. His eyes were matted with yellow pus and he could not see. His face was terribly burned. His lips were swollen and purple. His whole body had been turned the color of an Indian, and portions of it looked like melted flesh, as though it had been liquefied.

"The fighting had been renewed all along the American lines, and German wounded had begun coming into our hospitals. I said to this soldier:

"The boys are getting their revenge for you fellows tonight.' He smiled through his seared lips, and in a voice so faint that I had

to bend down to listen, he gasped, 'God! I wish I was back there with 'em!'"

Do you still think your life a hard one?

### PARAGRAPHS AND SLOGANS.

Samuel Gompers says: "We can forego luxuries for a time, be content with the primary necessities of life, in order to save for the future our heritage of freedom and the things of the spirit."

When one of our soldier or sailor boys makes the supreme sacrifice we say he died doing his duty. When one of us over here buys an interest-bearing government security we want to be called a patriot. Let's buy War Savings Stamps to help our country and not to be glorified.

Are you grateful that 2,000,000 of our boys, enlisted in our Army and Navy, are giving us security at home? If you are, turn your gratitude into War Savings Stamps.

It is cheaper to spend a lot of money to win the war than not to win it.

Lend your money as freely as our boys are giving themselves.

### DO YOU KNOW THAT

Keeping healthy is a part of doing "your bit"?

Peace hath her health problems no less than war?

Constant vigilance is the price of freedom from flies?

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OF THE

## Medical Association of Georgia

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## WHAT HAVE YOU GIVEN UP?

Have you given up your job and let your business future take care of itself?

Have you said good-bye to your family and friends and all you hold dear?

Have you begun an entirely new career that may end, if you live, with health impaired, an arm off, a leg gone, an eye out?

Have you given up your business future and said good-bye and taken a chance on coming back alive and well, and done it all with a cheerful heart and with a grim determination to do all you possibly can for your country?

And do you only at times—in the evenings, perhaps, when the light in the sky slowly fades away—feel so homesick and so lonesome that you are fearful you will not have the courage to do your part after all?

You have not done these things? Ah, I see, you are not one of our Army or Navy boys; you are a stay-at-home person.

Brand Whitlock, our minister to Belgium when the German hordes first entered that martyred country and for three long years thereafter, is now telling us of some of the things that happened during that orgie of German lust. He writes in "Everybody's" as follows:

"It was on that Sunday morning of the 23d; the Germans that swarmed down the Friedrau road, entered the quarter of Penant, arrested the inhabitants and took them to the Rocher Bayard. The people were held there, evidently as a screen, while the Germans began to construct a temporary bridge over the river. The French were on the other side, and now and then they shot at the soldiers working there. The Germans, annoyed by the spitting, irregular fire, sent a citizen of Dinant, one of the prisoners, in a boat across the river to inform the French that unless they ceased firing the civilians would be shot. M. ——— made his dangerous voyage, accomplished his mission, and returned to take his place among his fellows. But a few stray bullets still sped across the river.

"Then was committed the atrocious crime. The prisoners were massed together, nearly 90 of them, old men and young, women, girls and boys, little children, and babies in their mothers' arms. A platoon was called up; the colonel in command gave the word to fire, and the gray soldiers, in cold blood, shot down those 90 persons as they stood huddled there together. Among them were 12 children under the age of 6 years, 6 of whom were little babies, whose mothers, as they stood up to face their pitiless murderers, held them in their arms.

"The six babies were the child Flevet, 3 weeks old; Nellie Pollet, 11 months old; Maurice Betemps, 11 months old; Gilda Genen, 18 months old; Gilda Marchot, 2 years old, and Clara Struvay, 2 years old.

"Evening came; the soldiers were fumbling among the mass of dead. Some were still living; some, by a miracle, were uninjured. And these were dragged from the pile of bodies and made to dig a pit and to tumble into it the bodies of the victims of the tragedy, their relatives, their neighbors, and their friends."

There are 2,000,000 reasons why every American should buy War Savings Stamps.

## DON'T EXPECT THE CHILDREN TO DO IT ALL.

---

Owing no doubt to the good work of those hustling, keen young boys and girls who have so generously given of their time and their pennies to the thrift campaign, the impression has been created in the minds of many that War Savings Stamps are for children only.

Let us stop to consider the matter for a moment.

The congress authorized an issue of \$2,000,000,000 W. S. S. to be sold in 1918. The purpose of the stamps was two-fold: (1) To get money for the Government for war needs; (2) to instill the habit of thrift in the American people and by the practice of thrift save labor and materials for the Government.

Can we expect the children, splendid workers that they are, to account for \$2,000,000,000 of stamps?

Do we consider that the children alone of all our population need to be inculcated with the thrift idea? Are they the only spend-thrifts?

Certainly not.

War Savings Stamps are for everyone. No one, be he a millionaire or be he the humblest laborer, can say truthfully that he is not interested in W. S. S. and the saving program that they stand for.

There are, indeed, few men and women in the land unable to save and economize more than they do now. If they want to be listed among the patriotic people of the land they must save and economize more than they do now. The winning of the war with the least possible sacrifice demands this, for there are not enough labor and materials for the Government's war needs and for the use of the spendthrifts.

Cut those useless expenditures. All of us have them. Remember that our boys in the Army and Navy do not expect luxuries and do not grumble even if they do not get all the comforts that they are supposed to get.

## YOU AND OUR CASUALTY LIST.

---

Have you noticed our casualty list recently? Do you realize that nearly 8,300 of our boys have been killed or wounded or captured by the Huns? Deaths in action and from wounds and accidents amount to

more than 3,300. The list grows with the days, and will grow the more quickly as the number of the boys in action increases.

The casualty list makes you more readily understand, perhaps, why the Government and those humanitarian agencies connected with war work call incessantly for financial support. Funds are needed to keep our men equipped, to keep them properly fed, to keep them cheered up—to give them everything they should have and as quickly as possible, so that the casualty list may not be increased because of the lack of anything. And do not forget that the number of men who must be provided for increases each day, which means the need of more and more support from you.

You are now asked to pledge yourself to save to the utmost of your ability and to buy W. S. S. that there may be more money, labor, and materials with which to back up those who fight and die for you. When you do this be sure to remember that in being allowed to do it you are granted a great favor. Others give their lives.

## PRACTICAL PATRIOTISM.

---

Patriotism of the proper kind is demonstrated in the manner in which the heads of large industrial organizations are supporting the Government in its war work. There are still, of course, a few persons who are either too selfish or too ignorant of the fundamentals of economics to give that support so much needed by the Government in this crisis.

In England they say, "Every shilling wasted stabs a soldier in the back."

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# THE JOURNAL

OF THE

## Medical Association of Georgia



PUBLISHED MONTHLY UNDER DIRECTION OF THE COUNCIL

Editorial and Business Office, 1122 1123 1124 Lamar Building.

Subscription Price, \$1.00

Entered as second class matter, Aug. 4, 1911, at the Post Office at Augusta, Ga., under the Act of Mar. 3, 1879.

VOL. VIII.

AUGUSTA, GA., AUGUST, 1918

No. 4

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## SYPHILIS VERSUS CANCER OF THE STOMACH.\*

George M. Niles, M.D., Atlanta, Ga.

This is not intended as a disquisition on cancer or syphilis of the stomach, nor is it a text-book study of either. The writer will endeavor to briefly record certain impressions that have seemed helpful in differentiating these two maladies, in which the prognosis is so variant—impressions that have on several occasions enabled him to avoid embarrassing diagnostic pitfalls.

The human picture of advanced gastric cancer, with its concomitant disturbances is rather characteristic. The cachexia, the anorexia, the marked loss of weight, the general appearance of "goneness"—all these are familiar to the physician of experience. When a test-meal from the stomach shows little or no free hydrochloric acid, the presence of lactic acid, and perhaps the Boas-Oppler bacilli, another diagnostic link is forged. If, in addition, the roentgen exami-

nation portrays a deformed stomach, with serrated margins of the shadow, and when all these malign manifestations appear in an individual past middle life, who gives a history of either long-continued digestive distress, or a recent digestive upset accompanied by the rapid onset of all these symptoms, a mere tyro could make the gloomy diagnosis.

On the other hand, there come to us sufferers who have not reached middle life, but who exhibit many indications, both objective and subjective, of gastric cancer.

In some a history of syphilis may be elicited; in others, both the character and station in life would absolutely negative such a suspicion. Here is where a Wassermann should be a deciding factor in clarifying the fog, but unfortunately it is in many instances a "broken reed." At the risk of being dubbed an iconoclast, the writer wishes to record his skepticism concerning the present-day Wassermann. Four-plus reports have been given him, when neither past history nor subsequent events substantiated the diagnosis of lues; while negative Wassermans have been "turned in" for patients who were undoubtedly syphilitic. Until some fixed technical standard is reached, or

\*Read at meeting of Medical Association of Georgia, Savannah, Ga., 1918.

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certain scientific requirements are demanded of those who perform these delicate tests, the Wassermann will continue to be, in a large number of instances, instead of a light in the darkness, a "delusion and a snare."

Two quite important considerations are the age, and general appearance of the patient. Gastric carcinoma is seldom encountered under the age of 40 or 45, and more often after the latter age. It is easy to believe that some of the reported cases of cancer in young persons, where inoperable neoplasms were found in the abdomen, were really syphilis. Then, too, these sufferers, though the gummatous growths invading the stomach have greatly curtailed its motor and digestive capacity, thereby causing weakness and emaciation, do not generally "look the part" of cancer. The cachexia may be, and often is, entirely absent.

The chemie and microscopic findings in a syphilitic stomach are not very helpful from a differential standpoint. The oxyntic or acid-bearing zone is in the middle portion of this viscus, so that any form of hyperplasia will bring about an achylia. Stagnation of any sort in the stomach may promote the presence of either lactic acid or the Boas-Oppler bacilli, which in themselves are not at all pathognomonic of cancer. Furthermore, a cancer or gumma, which does not invade the middle zone nor obstruct the pyloric outlet, may play havoc with the patient, while the chemie processes of the stomach remain comparatively normal.

The roentgen findings, where thoughtfully and intelligently interpreted, in a large percentage of cases cast some real diagnostic light upon this murky subject. In the presence of malignancy, except in the cirrhotic or "leather-bottle" stomach found only in those of advanced years, the roentgenogram delineates a distorted organ with edges either serrated, or, where it is not filled out, exhibiting a ragged or "moth-eaten" appearance. In gummatous infiltration, the stomach shadow appears to be either almost **blotted out**, or blurred by more rounded masses. The writer is prepared to go on record that he has never seen a true syphilitic stomach show either **serrated** edges in the shadow or the appearance of either moth-eaten fabric or worm-eaten wood, as has been noted in true cancer cases.

This will be illustrated in the accompanying incuts.

Where the element of time is not urgently demanding a quick answer, active antiluetic therapy will in most instances afford prompt amelioration of all distressing symptoms, or, if the condition is malignant, will make bad matters worse so quickly, that a decision will be simply **thrust** on the medical attendant.

There might also be mentioned the possible contingency of both an old degenerating ulcer of the stomach, plus a gummatous invasion. Such as this, could only be judged on its merits, and treated perhaps empirically, while waiting for the "clouds to roll away."

Let it be emphasized in conclusion that the stain of syphilis is widespread; that it abides in the palaces of the mighty, as well as the abodes of the lowly; that the most devout churchman may unwittingly harbor this ubiquitous taint, while the beautiful young maiden in her innocence and purity may, nevertheless, entertain this consuming guest, that will

"—Like a worm i' the bud  
Feed on her damask cheek."

So, in all organic changes of the stomach, before pronouncing the sorrowful diagnosis of cancer, let every effort be made to eliminate any doubt as to the existence of this ancient, but omnipresent, enemy to mankind.



Fig. 1. Normal stomach showing all portions well filled out.



Fig. 1. Early operable cancer of pylorus. Note serrated edges.



Fig. 3. Syphilis of stomach in man, aged 22. This man now seems well.



Fig. 5. Syphilis of stomach in woman of 28. She is now clinically well.



Fig. 4. Cancer of body of stomach. Note "worm-eaten" appearance.



Fig. 6. Inoperable cancer of stomach. Note serrated margins of shadow.



## DIAGNOSIS AND TREATMENT OF GASTRIC ULCER.\*

By J. T. Rogers, M.D., Savannah, Ga.

When all the book symptoms of gastric ulcer are present the diagnosis is easy, but when none of the book symptoms are present the diagnosis is not so easy.

The three principal clinical symptoms of gastric ulcer are: Pain, hematemesis and vomiting; but we are now finding gastric ulcers where not one of these symptoms is present. We find ulcer of the stomach where the only clinical symptoms present are: Indigestion, weakness and nausea soon after eating, with little tenderness over epigastrium. We often find a slight elevation of temperature in the afternoon, varying from 99 to 99.5 degrees. Other symptoms are variable appetite, some loss of weight, not much energy and easily fatigued. In these cases we have to depend upon the X-ray, string test, and occult blood test for diagnosis. But with X-ray and string tests and occult blood test in stools and in gastric contents we can make the diagnosis in almost all these cases as we believe—at least from 80 to 90 per cent.

### Differential Diagnosis.

We may have to differentiate from gastric ulcer:

- 1.—Duodenal Ulcer.
- 2.—Gall Stones.
- 3.—Cancer.
- 4.—Gastralgia.
- 5.—Hyperchlorhydria.
- 6.—Acute Pancreatitis.
- 7.—Appendicitis.

To distinguish gastric ulcer from the most of these diseases is usually not very difficult.

1. In **Duodenal Ulcer**, in the cases we have observed, they all had pain. The pain comes on later, too, than the pain in gastric ulcer, usually three or four hours after eating; while the pain in gastric ulcer comes on within an hour after eating as a rule. We must remember, too, that we may have ulcer in both stomach and duodenum at the same time, and in such cases we are apt to have pain lasting for hours after eating. We would state here that when we have found

ulcer of the stomach without pain, haematemesis, or vomiting of food, the percentage of free hydrochloric acid has always been low. We have not had many such cases—about a dozen perhaps.

2. In **Gall Stones** and gall bladder troubles, pain is higher up—more to right side and reflected to right shoulder often, especially small spot under lower third right scapula. We can usually find tender spot over position of ulcer which is below and to left of gall bladder line.

3. In **Cancer of the Stomach** a more constant pain is felt, but not so severe. Pain in cancer is less influenced by food. Hematemesis in ulcer is a brighter red blood than that from cancer, and in case of ulcer, there may be a sour odor; but in cancer the odor is fetid and color dark brown. One may feel tumor in cancer. There is also more loss of weight and pallor in cancer than in ulcer. The tongue in ulcer is red and dry as a rule, and may have a white streak in center, while the tongue in cancer is, as a rule, coated.

4. **Gastralgia**. The pain in gastralgia is not influenced by eating and is relieved by pressure, while in ulcer the pain is usually brought on by eating and never relieved by pressure. Pain in ulcer in a few cases where the percentage of hydrochloric acid is high may be stopped for a time by taking food.

5. In **Hyperchlorhydria**, the pain is practically always relieved by taking food, especially meats, milk and eggs (protein foods requiring gastric digestion), but pain comes on again when the stomach is empty. On the other hand the pain of ulcer usually stops when the stomach is emptied.

6. **Acute Pancreatitis**. Pain comes on much more suddenly and severely with rise of temperature—with rigid abdomen in few hours.

7. **Appendicitis**, by its ability to simulate almost anything that may occur in or happen to the abdomen may keep us in doubt as to real trouble until every known means of diagnosis has been used.

But, after our three stand-bys have been used—X-ray, string test, and occult blood test), we can, in most cases, make a positive diagnosis.

### Treatment.

Gastric ulcer patients are put to bed for from two to four weeks and given a milk

\*Read at meeting of Medical Association of Georgia, Savannah, Ga., 1918.

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diet, milk, eggs and cream, for the first week—a small amount being given each hour from 7 a. m. to 7 p. m., with enough soft magnesia and bicarbonate of soda given a half hour after each feeding to keep the free Hcl. neutralized. Large doses of bismuth sub-nitrate or sub-carbonate are given night and morning. It is necessary to keep the free Hcl. neutralized because it is this which prepares the raw surfaces of the ulcer to be acted upon by the digestive power of pepsin. Pepsin can not digest one cell of mucous membrane in the absence of free Hcl. If the patient is run down in general health, we give iron and arsenic. The diet after the first week may be increased to scraped beef, soft cooked eggs, crackers, toast, strained oatmeal, cream of wheat, etc. In order to save time and trouble we use a printed diet list, a modified Lehnartz diet worked out by Major Seale Harris, of Washington. This I shall not take up your time with reading.

We determine the amount of magnesia and soda necessary to neutralize the free Hcl. by the use of the **duodenal tube** daily for first few days, drawing off a drachm of gastric juice and testing with **congo red paper**. This can be done in about three minutes at bedside of patient. The majority of gastric ulcer cases can be relieved of their symptoms in three to four weeks under this treatment. But, we can not tell them that they will be restored to their normal state of health under six to twelve months after a gastric ulcer is healed. We must also see to it that the cause of the ulcer is removed, in so far as is possible, such as: bad teeth, bad tonsils, sinus trouble, chronic appendicitis, gall bladder disease, or any other pus secreting point or organ.

To determine when to operate and when not to operate in these cases is sometimes the hardest thing to do. We used to have them operated upon after a month's treatment without relief, but we feel that this is too short a time in which to heal many of these ulcers, and, now, unless the pylorus is closing up, or some other definite operative condition arises, we go on with the medical treatment for a few more weeks. It may be that the great American surgeon, Nicholas Senn, was right when he said in 1906, judging from the results of his own experience: "I regard ulcer of the stomach a strictly medical disease and treat it as such. The only indications for surgical interference

are obstructions from cicatricial contraction and dangerous hemorrhage. I look upon gastro-enterostomy in all other cases or any other surgical procedure as irrational treatment and one that is liable to be followed by grave remote disturbances of digestion by making a physiologic exclusion of the most important part of the intestinal canal, and by establishing an abnormal opening between the stomach and intestinal canal."

One thing concerning gastric ulcer, we feel sure of, and it is this: There is more to be learned about it in the future than the little we have learned in the past.

#### DISCUSSION OF DR. ROGERS' PAPER.

**Dr. E. G. Jones (Atlanta):** If there is any subject that has excited my interest and made a draft on my judgment in regard to diagnosis, it is this, and I am ready to confess I am not able to make a diagnosis. So strongly do I feel this way that I have the feeling that is shared by the average individual who looks into the abdomen for the purpose of curing a gastric ulcer by surgical measures—that he does not believe it is an ulcer until somebody has looked at the ulcer. So when the interne thinks they have cured so many people, it is very natural for me to inquire, "Who saw the ulcer?" I am not able to deny that the ulcer exists, but I confess in a majority of instances I am so uncertain with reference to the diagnosis that I can not confirm it. This is my own individual experience, but I dare say it is the experience of all people who operate for troubles of this sort. Your friend, the internist, makes the diagnosis of gastric ulcer. The case is thoroughly gone over from your standpoint and you are not able to deny nor to confirm it, and when the abdomen is opened there is no ulcer.

Dr. Rogers mentioned pain as the first characteristic symptom, but I do not know whether we can make a diagnosis on pain or certain characteristics of that pain. It is certainly present in 90 per cent of people who have been operated upon for gastric ulcer. How many men have had gastric ulcer who did not have pain I do not know. Now, with reference to this pain there are four characteristics that ought to establish a diagnosis, but they are so frequently absent and if present their characteristics are so frequent-

ly confused that there is a great deal of uncertainty with regard to the diagnosis. First is the chronicity of the pain. It has existed for a long time—in the average instance twelve to fourteen years. Second, there is the periodicity of the pain. The individual feels this pain for six weeks at a time, or two months at a time, and then there is a period of six weeks or two months when he is comparatively well. Then there is the relief of this pain by food or its aggravation by absence of food. Dr. Rogers has mentioned the fact that we can get an idea whether it is a duodenal or gastric ulcer when we consider the length of time intervening before the pain after a meal. He mentioned one hour as the average time. Fourth, the individual during these periodical attacks has distress every day. The individual that has a gastric ulcer in his right iliac fossa is well one day and sick one day, well for a week and sick for a week; but not so with gastric (?) ulcer.

These four points, if they can not be established with reasonable certainty, leave the diagnosis extremely uncertain.

This whole picture with reference to duodenal ulcer becomes very much clearer and there are few things easier diagnosed than duodenal ulcer.

**Dr. E. C. Thrash (Atlanta):** I want to say something with reference to the X-ray in gastric ulcer that I have never heard any one mention, and I do not know whether it is in the text-books. The radiologist confuses the internist with the idea that he can show an ulcer with the X-ray, which is encouraging to the average internist who is not familiar with the actual work and thinks he can have the X-ray determine whether or not there is an ulcer. What the X-ray shows is a niche in the stomach wall with the barium protruding out, and also a deep—opposite this. The X-ray is merely a question of lights and shadows. The stomach is a modified form of cylindrical organ and the niche is produced by the protrusion of the duodenum upon the general mass of the barium. The patient lies flat on his abdomen and there is about 20 per cent of the smaller curvature and 20 per cent of the larger curvature which will extend beyond the great shadow mass of the stomach. In 60 per cent of the stomachs the X-ray is not worth a cent, because that niche shoves up and down diagonally across and you do not see the

niche. So the X-ray has some value, but it is only about 25 per cent effective in ulcer of the stomach. The duodenal cap may be turned around from forward to backward, and the duodenal cap may be perfect from the standpoint of the anatomical structure of the stomach, and the shadow may show that there is no cap at all.

In closing, I want to state that the X-ray has its value in diagnosis, but it makes up a very small percentage of the total data which we might use in diagnosis of ulcer of the stomach. The diagnosis of ulcer of the stomach is not as easy as many people believe, and the X-ray is not as valuable as the radiologist would lead us to think.

**Dr. E. B. Block (Atlanta):** I doubt very much the wisdom of an operation for gastric ulcer except to meet some emergency. I think where there is perforation, where there is persistent hemorrhage or marked pyloric spasms, it is often helpful, but the difficulty lies in this, that after you have removed the gastric ulcer, what will keep others from forming? Let us look at it from the standpoint of the ulcers that appear in the mouth, because you have practically the same proposition in the stomach as you have in the mouth. You have a patient who will come to you with one or more ulcers in the mouth and you take a stick of silver nitrate and go all around the edges, and nearly always the ulcer heals up; very good. Perhaps you do not see the patient for two or three months or years, and then he comes back again with another ulcer at a different place. You touch that up and it disappears. Absolutely the same thing takes place in the stomach, and if you are going to remove every gastric ulcer, you must keep on operating on that patient. I know one woman who has been operated four times, and the very interesting thing at that operation, at which I was present, was that she had marked hematemesis, great pain and great emaciation, but when the stomach was opened nothing could be seen of an ulcer. I said to turn the stomach wrong side up—which we did, and while we were looking at it a small point of blood appeared—a very minute drop—in other words, the ulcer was microscopic. The surgeon sponged it off and excised the ulcer and sewed it up and while he was doing that another drop appeared, which was another minute ulcer, and he excised about one dozen in this operation. She made a good recovery.



What happens with these ulcers? Some very interesting experiments have been made. The stomach of a cat has been taken out and macerated, a suspension made and injected into a guinea pig. This has been repeated four or five times, then the serum of the guinea pig was taken and injected into a half dozen cats. Each of these half dozen cats in which the blood and serum of the guinea pig was injected developed gastric ulcer. What happened to these cats that developed gastric ulcer? That depended entirely on how they were treated. Those cats which were fed on alkaline food were well in three weeks; the cats which had nothing done for them dragged on for a longer period. It is very suggestive that what we have to do with is a proteid excess—the origin of the proteid excess I do not know. We know the factors which cause the condition, we know that pyrrhoea or apical abscess, chronic inflammation of the tonsils, overwork, worry, loss of sleep will all help bring about this condition because they increase the secretion of the hydrochloric acid in the stomach, and it is this increase of acid in the stomach which encourages the presence of ulcer. The acid does not cause the ulcer, but given the ulcer and some acid of the stomach, the longer that acid will last, the larger the ulcer will become and the deeper it will burrow into the wall of the stomach.

This is about as far as we can go with the etiology. As to the bacterial protein, it is quite probable there are different substances to which different people are sensitized, and, therefore, that gives us reason for believing that this proteid sensitization is the cause.

Now I can not see the value of operating upon these cases where they are going to have recurrence of ulcers unless there is some special indication for it, unless there is excessive hemorrhage or evidence of perforation, or something of that sort. In that case the operation, of course, is squarely indicated; otherwise you may have to repeat the performance very frequently.

**Dr. J. W. Lanham (Atlanta):** I want to speak of one feature of which you may have gotten a wrong impression from what Dr. Thrash has said, and that is the X-ray study. In the diagnosis of organic lesions of the stomach by means of the X-ray, where the diagnosis is made properly, the percentage of positive diagnoses is very high. Of course,

if it is not used properly, you will get a false impression; but given a man who does his work right, and the X-ray is of value in diagnosis. A great many elements enter into the procedure and the work must be carefully done. Dr. Thrash spoke of laying a patient on his stomach. If you do that you will certainly get a wrong impression. The thing to do in making a diagnosis by X-ray is to say nothing about the position of the patient until you have him under the fluoroscope. You may have extension on account of gas; you may have a duodenal cap, but you determine that after you have the patient on the table. Get your patient in such position that the cap will show. You may place one patient in one position and another in another different position to get the outline. So far as seeing only one side of the stomach, you must rotate the patient in order to see both sides of the wall, and whether the stomach is movable or fixed, you want to rule out as to whether it is from spasm or not; it may be spasmodic from the gall bladder or an infected appendix, and there are many such things to be taken into consideration; but you can certainly make a diagnosis in a great percentage of cases if the diagnosis is followed properly.

**Dr. J. L. Campbell (Atlanta):** The doctor in presenting his paper did not make any attempt to classify ulcers of the stomach. There is a class of ulcer that can be treated fairly well from a medical standpoint. That is, if we remember that in the first place these ulcers may exist simply as erosions—minute erosions, or perhaps a little deeper down into the submucous tissue where the vessels of the stomach are most evident. In erosions or very minute ulcers these can be best treated by medical means, because it would make a very long operation to excise all these ulcers, and the most of these alkalized ulcers heal, as Dr. Block says, in the mouth. But when you come to treat the true stomach ulcer, an ulcer that attains the size of a pea or a dime or even larger, there is no treatment except incision. These ulcers get well, another recurrence, gets well, recurs again. A series of 490 cases was reported from a Louisville hospital a few years ago, and perhaps 60 per cent were cured by medical means; but 40 per cent of these cases came back shortly with another attack, and in tracing these cases we found that in the remainder of the cases two or three had

died subsequently with hemorrhage, and others had drifted to other hospitals in the neighborhood, and only about eight or ten per cent remained cured by medical treatment, while of those cases which were treated from a surgical standpoint perhaps 95 per cent remained cured where the ulcer was excised and a gastroenterostomy was performed. That is a very large percentage, and especially of these chronic stomach ulcers.

I do not know very much about the string test—I do not have very much faith in it in the diagnosis of genuine stomach ulcer. It may be it is my fault that I do not believe in it, but I think you can come to almost positive conclusions from your clinical symptoms, but there are three things that may mislead you. In the first place, a very misleading symptom is the adhesion of the omentum around the lower part of the abdomen. Just a few days ago Dr. Selman referred a case to the Grady Hospital. The man came into the office, an X-ray was made, and a diagnosis made of gastric ulcer. Dr. Selman operated yesterday morning and found an immense number of adhesions in the neighborhood of the appendix, but he did not demonstrate the presence of an ulcer of the stomach, and yet this man has had decided hemorrhage. We put an ice pack on his stomach, rest in bed, morphine and other treatment for acute hemorrhage. In a few days he recovered sufficiently to be operated. I did not know whether the man had ulcer—I never know until I get my hands on it on the operating table, because all of these things fool us and I have very little faith except the actual view of the ulcer. My experience in the medical treatment of these ulcers has been limited, but I have great faith in the surgical treatment when I am positive that the patient has ulcer.

**Dr. St. Joseph B. Graham Atlanta):** Dr. Bloek said a good thing when he spoke of the protein sensitization, and when we have this protein sensitization protein desensitization points to the cure. Some patients if given a 30-grain dose of sulphat of quinine will have sore mouth and serious trouble. We say that patient has an idiosyncrasy to that. We camouflage our ignorance with that beautiful word. Therefore, before we get a cure the thing to do is to find what protein is being sensitized. Most proteins in the body can be looked after first in the

mouth, in the teeth, in the tonsils, or the different sinuses around the head somewhere, and if not there, then in the abdomen—the colon bacillus or something like that. Then take the patient's blood serum and test it against the protein that is supposed to produce it. In that way you can find how to treat many of these cases medically.

**Dr. W. A. Selman (Atlanta):** Since attention has been called to this case that was brought into the hospital, which I operated yesterday, I would like to say that this represents one of the cases that is very misleading. In this case we had had not only very severe hemorrhage after the man came into the hospital where we could watch him, but he had had two hemorrhages before that, and in a paper sent to me by Rosenow a few days ago he said that if your patient has had severe hemorrhage and there is a tendency to recur, do a posterior gastroenterostomy rather than risk a repeated hemorrhage, that their results have been better with surgical treatment than anything else. So that is the course I followed—a posterior gastroenterostomy.

**Dr. W. A. Cole (Savannah):** Dr. Thrash, unfortunately, would give one an erroneous idea as to the value of the X-ray method of diagnosis. His diagnosis, I should judge, is that of a man who makes the occasional diagnosis, not that of a man who does a great deal of that work. The man succeeding his discussion gave a very good outline of the value of the ray and the method of producing the plate. We use the fluoroscope screen, which shows the entire outline of the stomach, and we make one, two or half a dozen pictures. With this screen you get almost a direct idea of what is there. Dr. Cole, of New York City, has been able to show a percentage as high as 90 of cases that were proven gastric ulcer.

I would like to ask the last speaker whether he opened the stomach, and my reason for doing that is this, that about a year ago a case was sent to me for examination and my diagnosis was a small ulcer on the lesser curvature close to the pylorus. The surgeon did not want to operate, and he did it rather on my insistence, and when he looked at the stomach he said, "Cole, where is that ulcer?" I pointed to the spot where the ulcer ought to be, and he said he did not know whether it was there or not, but he would go in and see, and he did and found

the ulcer. I wondered whether the gentleman opened the stomach.

**Dr. J. T. Rogers (Savannah):** I have no disagreement with any of these gentlemen. The percentage of cases that have pain, that Dr. Jones spoke of I believe is about correct in our experience. I have probably laid too much stress on those I have found not having pain and not having the regular symptoms, because they were so unexpected.

Some of the gentlemen disagree with me as to the string test as a mode of diagnosis, and I confess that I have met that objection even among a very few of the gastroenterologists who do not believe in this string test. I asked one of them some time ago why he did not believe in it, and he said, "To tell you the truth I have not tried it except in four or five cases, and I did not get what I considered good results with it." We can not prove anything by a few tests; we must make it a routine matter, and only by trying it in many, many cases do we get any real benefit. We give this string test to every patient, and that is why we find the ulcer in cases that do not give the regular symptoms. One case we found by the string test and Dr. Cole found it by the X-ray, and we worked for about three months, and every time we gave this test we found blood in the same place, and by careful measurement we could tell very nearly where the ulcer was located. After working three months in following Dr. Sippy's line of treatment, I went to see him and asked him a good many questions, because I wanted to see if we were following the proper course, but he assured us and told us to keep taking the X-ray pictures every few weeks, to be sure that we did not let a cancer slip up on us. We tested the juices every day to be sure they were neutralized. We had X-ray pictures made and each one showed less and less sign of the ulcer. We have worked now about five months, and the last time there was absolutely no blood on the string and my point is that we have cured this ulcer and without operation. But of course we have to have operations and will as long as we have these cases. We are not having as many operated on as before for the reason that we have had more trouble after the operation than before. Six months after they come back to the internist and give him more trouble than before.

I forgot to make the statement that we can tell a duodenal ulcer from a gastric ulcer. If the ulcer is in the duodenum, we find the blood beneath and three inches above, so we can tell practically within an inch of where the ulcer is. We make a majority of diagnoses before referring them to Dr. Cole, and then we do not tell him anything about it; but he finds it in the same place.

Dr. Thrash mentioned that he did not have much faith in the X-ray. That is probably because he has not used it in enough cases, or has not used the best method.

Dr. Campbell spoke about two classes. I do not consider an erosion an ulcer at all. In the string test, if it is eroded, you will find drops along on the string; if it is a real ulcer, you will find the string soaked in blood from a half inch to an inch.

Dr. Block brought out a point that has not been cleared up, but I do feel that the time will come when we will know how to treat these ulcers in a medical way so that the surgeon will not have so much to do with that.

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### AN OPERATION UNIQUE, HAVING BEEN PERFORMED BUT ONCE.\*

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By Arthur D. Little, M.D., Member of State Board of Health, First Vice-President Medical Association of Georgia, Thomasville, Ga.

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About six years ago a sawmill man called me by telephone, saying he was sending a colored man up to see me and to please do whatever necessary for his relief, and in due time he came in. He gave the following history:

#### Present History.

Was suffering with sore head, malaise, sweats, and occasional chills, and thought he had fever at times. Physical examination showed a stout, well-nourished man about 35 years of age with crown of head overlarge for his physique. On closer examination there appeared a keloidal growth in the shape of the letter "H." The parallel keloids ran along the side of the head from near hair margin back to the occiput and with a connecting keloid crossing midway

\*Read at meeting of Medical Association of Georgia, Savannah, Ga., 1918.

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the head. Just at the juncture of the cross keloid and longitudinal keloids on either side appeared silver knobs, cylindrical in shape and about the size of a lead pencil. Puss was easily pressed from around the knobs.

### Personal History.

Reared in the Mississippi Delta in Louisiana. Had malaria and two wives. At age of 23 had an acute attack of wander-lust and embarked on an excursion steamboat for New Orleans. While at the latter place he was sight-seeing on a docked steamer when he was informed that unless he got off he would have to work his passage to Galveston. Still suffering from his acute malady he decided to visit Galveston, and after a week of hard labor and much seasickness he was allowed to land, and, not wishing to return, let the steamer leave port. He early found that he could not understand the language of his newly-found people, nor could he be understood, but finally some one met him and said, "Hello, negro," and he recognized an American white gentleman, who was later to play an important role in his life. Expressing much joy at seeing some one who could understand him, he found that he had been aboard a fruit steamer and was sojourning in South America. He, in turn, informed his newly-found white man that he was from henceforth his negro, and proceeded to follow him home to be his faithful servant.

This white man was no other than an American dentist of rare mechanical skill, and of no mean surgical ability; and wondering how he could turn his servant to best profit conceived the idea of making of him the most unique wild man in the history of the world. So following up this idea he hammered out an "H" shape plate from South American silver coin and brazing onto same two threaded knobs, he purposed to imbed this plate beneath the scalp of his servant and put taps in the butt end of magnificent goat horns; the horns could be serewed off and on at will. He further purposed to put Logan crowns on his servant's eye-teeth and in this way attach two vicious tusks of the wild boar. These, likewise, could be removed at will. For some reason he decided to return to the United States of America before proceeding to operate. Therefore, the journey was made to Georgia, and in a log cabin on the banks of a certain

river the to-be-wild-man was anaesthetized. the incisions were properly made, the plate successfully placed and the wounds closed. Union by first intention was obtained and there came into being one of the most real looking wild men ever conceived. Then followed the series of exhibits of this marvelous wild man and those who saw him indeed marveled, for there was not the slightest evidence of fake, as the horns went down flush with the scalp and the thick hair covered them well at the base. His tusks were very firm and real and very little advertising was necessary as he traveled from town to town and money came easy.

As good luck would have it the St. Louis Exposition would soon open and the managers were more than glad to have so wonderful an attraction as a real, sure enough wild man, so the wild man, with his owner and trainer were doing a land office business when, Zip! things went wrong.

One night, after closing, and the owner was sweetly dreaming of yachts and palaces, it occurred to the trainer that his wild man needed a little sight-seeing and liquid refreshments. So suiting the action to his thoughts he proceeded to administer spiritus frumenti to his man and himself when lo! and behold! his wild man became unmanageable and was causing a riot when the police interfered, and looking for the easiest point to control the goat man, the cop grabbed a horn, and, who are we petty mortals to criticize the creator of this wonderful being that his horns were not made for such rough handling, and the horn came away revealing the metal tap in the butt. The newspaper men were early on the job and as soon as the owner heard that all was discovered he immediately gave bond for the now useless wonder and both left the city post-haste.

The negro drifted back to natural paths and soon found work in a sawmill, but the silver knobs interfered with the combing of his hair and caused headache when overheated by the Southern sun, so he applied to a blacksmith and asked him to trim the knobs down with cold chisel and sledge. So laying his head near the anvil with the knobs lying thereon, the valiant blacksmith proceeded to trim the knobs to a less inconvenient length, but in doing so, disturbed the plate in its peaceful bed and so started suppuration and he consequently sought my aid.

### Operation.

Anaesthetized, the incision was made along the middle of each keloidal growth, and with patience and perseverance the plate was removed intact.

I have searched medical literature, but nowhere can I find that any one else has successfully removed the horns from a negro's head, no, not even the rudiments of horns.

It is with much regret that I am unable to exhibit plate, for the truth of the matter is, my office was broken open, my desk also, and the plate stolen. However, I have witnesses to the operation and many people saw the plate.

### DIRECT ALCOHOLIZATION OF THE SENSORY ROOT OF THE FIFTH NERVE IN THE TREATMENT OF "TIC DOULOUREUX," WITH LANTERN SLIDE DEMONSTRATION.

By H. H. Martin, M.D., F.A.C.S., Savannah, Georgia.

In a previous paper on the injection of the ganglion of Gasser through the foramen ovale I described the technic and gave a number of case reports, some of my own and some of others. I am, after several years of observation, still convinced that it is the treatment par excellence for painful "Tic."

In the early days of my work in this line I was at loss to account for some inconsistencies in the case reports, for instance: in some cases there would be a total anaesthesia in the area supplied by the fifth nerve which would begin to fade within 24 hours after the injection, while the analgesia would continue for quite some time, but eventually the pain would return and repeated injections would be required to establish a cure; while in other cases the total anaesthesia would not begin to fade for seven to ten days and would persist in the first, or ophthalmic division for many months.

In these latter cases we almost invariably had a neuroparalytic keratitis and a partial abducent paralysis, but a complete cure of the neuralgia.

I reasoned at that time that in the latter cases we had succeeded in placing our injection

directly within the corpus of the ganglion, while in the former we had merely placed our alcohol in the neighborhood of the ganglion. On one occasion, however, I was fortunate enough in making a dissection to discover the point of my needle snugly resting in the sensory root. I will say, also, that I had previously observed that if I introduced my needle one and one-half to two c. m. after entering the foramen instead of one c. m., I invariably secured a more complete and lasting result as to anaesthesia, analgesia and ultimate cure. Therefore, I have endeavored in all cases since

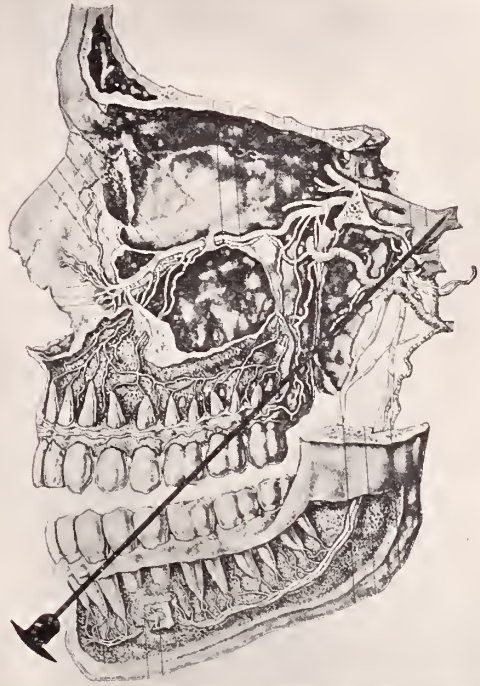


Figure 5. Schematic, showing needle point in Sensory Root.

making the above discovery to inject not only the corpus of the ganglion, but the sensory root as well; that this can be accomplished with a reasonable degree of accuracy will be shown in the slides to follow.

In the early days of my work in this line my practice was to find the foramen ovale from any angle that seemed the easiest; advance the needle one c. m. and slowly inject one c.c. of 95 per cent alcohol. I now in all cases, whether the pain be limited to the lower branch or not, advance the needle one and one-half to two c. m., keeping on the alert for the resistance encountered on reach-

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ing the dura and then inject one c.c. of alcohol within the skull and another c.c. as the needle is withdrawn. Of course, in making this deeper and more radial injection there is greater risk of injury to the eye, but the results are immediate, positive and lasting.

It is my present opinion that this method is applicable to all cases of painful "Tic," whether they be of the so-called "essential type" or not, for even when we do not effect a permanent cure we invariably give temporary relief. Of course, there are psychic cases and cases in which the cause lies proximal to the ganglion, which are not cured by this or any other method, but it is worth trying when relief can not be otherwise obtained.

### EXAMINATION OF STOOLS OF CHILDREN AND ITS SIGNIFICANCE.\*

By W. L. Funkhouser, M.D., Atlanta, Ga.

Modern medicine calls into use all diagnostic methods. Before a diagnosis is made all evidence should be collaborated. Preceding the advent of the thermometer the pulse rate and the sense of touch were used to determine the possibility of fever, also the degree. Until the microscope demonstrated the presence of tubercular bacilli in the sputum of incipient tuberculosis our predecessors made a diagnosis by the physical findings of a cavity and a hectic fever. Likewise nephritis was known by edema and coma.

The examination of stools in infancy and childhood has for a long time been overlooked. It is recognized now as an important aid in the proper conception of metabolism. By proper interpretation successful adjustment of a food is made to the digestive function of the child. It also assists in arriving at the cause of certain pathological conditions.

The factors determining the character of the stools depend on the composition of the food, the health and digestive function of the child, the absorptive process, the peristaltic wave and the type or types of bacteria inhabiting the intestinal canal in health and

disease. It is, therefore, with this in view along with the various pathological possibilities we proceed with the examination of the stools.

**Macroscopic Examination:** Number in 24 hours vary with the type of food taken. The normal breast-fed baby has two or more, while those fed on modified cow's milk usually have less. Malt preparations generally increase the number, while those fed on barley water have less.

**Size and Shape:** For the sake of description stools are divided into three classes: formed, loose and very loose; **formed**, generally the type of stool of normally digested cow's milk; **loose**, found in normally digested breast milk; **very loose**, indicating an irritable condition of the intestine.

**Color:** The normal breast milk stool is of a golden yellow color. Cow's milk stool is white. The most common abnormal color is green, the darker the green the greater the significance. It is green after the administration of calomel. Gray stool is due to fat in the form of soap or to an absence of bile. Brown stools are due to the feeding of meat preparations. Black stools may be due either to drugs or to the presence of blood. Blue or slate color is seen when there are certain changes in the bile and is of no special significance or the administration of methylene blue.

**Odor:** This varies with the type of food ingested. The normal breast milk stool has a rather aromatic odor, characteristic, but indescribable. The foul odor in the breast-fed is generally from a high proteid content in the milk. The dysentery stool has the odor of wet hay.

**Abnormal Constituents:** 1. Curds, there are two varieties, the soft, smooth, easily compressed fat curds which softens or remains soft in a formalin solution, and the casein which hardens in this solution. 2. Mucus, if thoroughly mixed, can be distinguished only by microscopical examination and indicates that it is from high up in the intestines. If associated with clay colored stool it is from the duodenum. When seen macroscopically on the outside it comes from the rectum. Mucus, associated with blood, signifies inflammation of the colon or intersusception. 3. Pus, microscopically, is of no special importance, but macroscopically it is indicative of infectious diarrhea. 4. Blood

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is seen in fissures, hemorrhage of new-born, intersusception and infectious diarrhea. 5. Membrane is observed rarely, occasionally in violent inflammation and in certain infections. 6. Masses of food is associated with indigestion or when there is too rapid peristalsis. 7. Parasites of different varieties, pin, tape, round, hookworm, etc.

**Reaction:** The hard soap stool is alkaline, the loose fatty stool acid, loose starch stool acid. Strong alkaline stool is associated with protein putrefaction.

**Microscopic Exam.:** Muscle fiber, if undigested, is seen in the typical form of the voluntary muscle variety. Starch, if present, stains with Lugol's Solution the characteristic blue. This is an abnormal constituent, indicating a reduction of the starch content in the food.

Parasites and ova when found gives a feeling of satisfaction. We should be as loath to give drugs for worms without an examination of the stool as we are to give quinine without having found the malarial parasites.

**Bacteriological:** The bacteriologists are so at variance that we who know so little about the complicated technique of examining the intestinal flora can not but feel helpless in trying to regulate our treatments to the needs of our patients from their interpretations. Especially when we are told that hordes of putrefactive bacteria are, or may be lying in wait for the food on which they may generate toxins to consume our patient. They have, however, evolved two methods which are of value, not complicated, and the interpretation reliable for practical purposes when an infectious diarrhea is present. I will mention the one I use: To a test tube previously sterilized with concentrated nitric acid and thoroughly washed until neutral, add a portion of stool, preferably containing mucus and pus, then sufficient water to fill the fermentation tube. To this add dextro-maltose about the amount that can be held on the point of a pen knife. Allow this to boil up three times, or about one minute, and pour into the fermentation tube which has been previously sterilized as above. Allow this to incubate or set in a warm place about body temperature for 12 to 24 hours. If gas forms in the arm of the tube, the gas bacillus group predominates,

which calls for the high proteid milk to be fed.

**Micro-Chemical:** It is this simple procedure that gives the greatest aid in proportioning the elements in the infant's food, namely, the detection of neutral fats, fatty acid and soap and the presence of undigested starch. The stools naturally will show the effect of our feeding first before the human economy will feel the effect of an error. A careful observation and study of the findings will foretell a condition allowing an adjustment before an explosion. In making the test be sure always that the slide and cover glass is well cleaned, being free from grease or oil. On the slide place a portion of the inner part of the stool, drop a few drops of saturated alcoholic solution of Sudan III, mixing thoroughly. Place under microscope. Neutral fats will stain red. Having studied the slide until satisfied, allow a few drops of glacial acetic acid to run under the cover glass, rub again, gently warming until it bubbles. This will change the soap into fatty acid, which takes the red stain. On the other end of the slide a portion of the stool is stained with carbol fuchsin (same as in staining for tubercular bacilli) if too dark to dilute with equal parts of alcohol, examining under the scope. This does not stain the neutral fats, but shows up the fatty acids, staining a bright red and the soap a dull rose. Tolbert interprets the findings as follows:

I. Stain with Sudan III no neutral fat and only one to three fat globules in field after the addition of glacial acetic acid and heat, digestion of fat is complete.

II. If no neutral fat and five to eight drop in field after acetic acid and heat, with no change in fecal residue, digestion is normal.

III. If no fat and two to four drop in the field with eight to twelve after acid and heat, but no change in residue, there is a slight excess of fat.

IV. From none to six or eight drop in the field and more than twelve drops to field after the addition of heat and acid, with considerable fecal residue unchanged, there is a moderate excess of fat.

V. If no or many fat drops in field and the whole slide turns to fat drops after the acid and heat are applied, the excess of fat

is in large amount. The deductions are as follows:

I. Entire digestion of fat. It is safe to increase the fat in the food.

II. Normal Digestion: If it is necessary to increase the food and there are no symptoms, it is safe to increase the fat.

III. Slight excess of fat: It is difficult to say how much significance to place in this, but probably very little. Judgment will have to be used as to the advisability of increasing the fat.

IV. Moderate excess of fat: If no symptoms of indigestion, watch more carefully—more caution exercised.

V. Large excess of fat: Too much fat seen, if no symptoms, it is safe to decrease the fat and re-examine the stool.

Experience required by a routine examination will determine the classification as well as the remedy. The time required not being over three minutes, it behooves us to check all feeding cases by this simple method.

Urinary examination seemed burdensome and unnecessary until adopted as a routine. The same attitude may be held toward stool examinations. It is easy, rapid and as dependable as any other clinical procedure.

McClanahan: The Practical Value of Examination of Stools in Infants. See Diseases of Children.

Transactions: A. M. A., 1915, page 31.

Morse: The Stools in Infancy. New Orleans Medical and Surgical Journal, 1916: Case History, page 60.

Holt: Preliminary Report on the Chemical Analysis of Infants' Stools. American Journal of Obstetrics, 1914. Vol. 69.

Tolbert: Physiology and Pathology of the Digestion of Fat in Infancy. Transactions A. M. A., See, Diseases of Children, 1910, page 306.

Method of Examining Infants' Stools and Their Value. Archives of Pediatrics, 1911, vol. 28, page 120.

Infant Feeding and Examination of Stool. Archives of Pediatrics, April, 1913.

Wilson: Infant Stools as Diagnostic Aid to the General Practitioner. So. Med. Journal, 1917; vol. 10, page 197.

The more money The Journal of the Medical Association of Georgia makes out of its advertisements the less it costs the State Association to run the paper. This means that every member of the State Association has an interest in the advertising columns. If one business firm advertises and another does not, patronize the one that does. It is money in your pocket.

## LIBERTY LOAN AND SAVINGS BANKS.

The effect of the Liberty Loans and the War Savings Stamps on savings banks' deposits has been watched with keen interest by economists and financiers. The experience of England was very encouraging; in the year 1916 the English small depositors purchased billions of dollars of war bonds and at the same time increased their deposits in savings banks over \$60,000,000.

The belief is entertained that the result in America has been very similar to that in England, and that despite the purchase by the American people of some \$10,000,000,000 of Liberty Bonds and \$500,000,000 of War Savings Stamps, a very fair proportion of which were purchased by savings bank depositors, savings banks deposits have increased.

Full reports have been received from the savings banks in New York state. They show a decrease in deposits for the last year of only \$8,000,000, but an increase of 21,252 depositors. The loss in deposits is insignificant; the increase in the number of depositors very significant. With increased cost of living and other war conditions, the decrease in deposits might well be expected; the increase of depositors shows that the saving habit is greatly growing in our country.

## WAR FINANCE CORPORATION AIDS FARMERS.

In compliance with telegraphed instructions from Secretary McAdoo, the War Finance Corporation has wired Federal reserve banks at Dallas, Kansas City, and Minneapolis to notify banks and trust companies in their respective districts, non-members as well as members of the Federal Reserve System, of the willingness of the corporation to make advances to those financial institutions which had made loans to farmers and cattlemen.

Droughts in these districts are creating a serious condition for the farmers and this action is taken to relieve the situation.

Secretary McAdoo stated that no industry was more vital to the war than raising wheat, corn, livestock, and other food products, and that the banks should make loans on the notes of farmers, since they are engaged in an industry not only necessary and contributory to the winning of the war, but vital to it.

# THE JOURNAL

OF THE

## Medical Association of Georgia

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### SUBSCRIPTION

Price.....ONE DOLLAR PER YEAR

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Advertising forms go to press eight days in advance of the date of issue. In sending in copy time must be allowed for setting up advertisements and for sending proofs. No proprietary medicines can be advertised until approved by the council. Advertising rates will be sent on request.

### CONTRIBUTIONS

EXCLUSIVE PUBLICATION: Articles are accepted for publication on condition that they are contributed solely to this journal.

CONTRIBUTIONS TYPEWRITTEN: Authors should have their contributions typewritten—double space and with ample margin—before submitting them. The expense is small to the author—the satisfaction is great to the editor and printer. We cannot promise to return unused manuscript, but try to do so in every instance. Manuscript should not be rolled or folded.

ANONYMOUS CONTRIBUTIONS, whether for publication, for information, or in the way of criticism, are consigned to the wastebasket unread.

NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

1. The bill in reference to the Medical Department of the Army as passed and approved by the President of the United States on July 9, 1918, is as follows:

“Increase in Medical Department: That the Medical Department of the Regular Army be, and is hereby, increased by one Assistant Surgeon General, for service abroad during the present war, who shall have the rank of major general, and two Assistant Surgeon Generals, who shall have the rank of brigadier general, all of whom shall be appointed from the Medical Corps of the Regular Army.

That the President may nominate and appoint in the Medical Department of the National Army, by and with the advice and consent of the senate, from the Medical Reserve Corps of the Regular Army not to exceed two major generals and four brigadier generals.

That the commissioned officers of the Medical Corps of the Regular Army, none of whom shall have rank above that of colonel,

shall be proportionately distributed in the several grades as now provided by law.

That the commissioned officers of the Medical Reserve Corps of the Regular Army, none of whom shall rank above that of colonel, shall be proportionately distributed in the several grades as now provided by law for the Medical Corps of the Regular Army: Provided, that nothing in this Act shall be held or construed so as to discharge any officer of the Regular Army or deprive him of a commission which he now holds therein.”

2. Under this bill the ranks in the Medical Reserve Corps, based on the report of the Surgeon General of July 12th, are as follows:

Major Generals .....	2
Brigadier Generals .....	4
Colonels .....	675
Lieutenant Colonels .....	1,158
Majors .....	5,063
Captains and Lieutenants .....	14,374

### Safety First Philosophy for the Tuberculous.

The American Review of Tuberculosis for July comments editorially on the safety first philosophy for the tuberculous. The man with arrested tuberculosis has to face, besides the popular stigma, the alternative of a life of idleness, in itself fraught with dangers of mental and physical deterioration, or venture along a risky path watching for symptoms of relapse, often too serious when once begun. There is only the middle ground for such a man which he must find for himself and be vigilant and well controlled. No test exists as yet to indicate the degree of healing of a tuberculous lesion. Many cases are discovered in persons in apparent good health and it would seem reasonable to consider that they have already demonstrated their physical fitness to continue their occupations. Such cases should receive an education and be allowed to continue in their usual vocations unless these are frankly hazardous. Intelligent caution is sufficient and until the attitude of the public is more reasonable and less hostile to the tuberculous, such instruction ought to be as free from publicity as possible. Much distress of mind may thus be prevented and the knowledge of, or the accidental discovery of the disease, will lose some of its dread significance to the hitherto unsuspecting individual.

E. R. B.: Editorial, Safety First Philosophy for the Tuberculous, Am. Rev. Tub6., 1918, Vol. 2, No. 5.



**RESOLUTION.****Savannah, Ga., March 18, 1918.**

On account of the increasing mortality from cancer throughout the world and because the general public is not aware of the danger of this great scourge—and because of the tendency to delay action in case of cancer until it is too late, therefore:

Be it resolved by the Medical Association of Georgia, That the President be empowered to appoint a committee consisting of one member from each congressional district to be known as "The Commission of the Medical Association of Georgia for the Study and Control of Cancer," and that this commission shall have the power to select as many pathologists as it may see fit; and, further, to use any and every legitimate means to educate the public and call the attention of the profession to the increasing danger of cancer.

**Cancer Commission of Georgia.**

J. L. Campbell, M.D., chairman, Atlanta.  
 George R. White, M.D., Savannah.  
 W. E. Saunders, M.D., Arlington.  
 T. J. McArthur, M.D., Cordele.  
 W. F. McCurdy, M.D., Richland.  
 C. H. Richardson, M.D., Macon.  
 R. M. Harbin, M.D., Rome.  
 H. M. Fullilove, M.D., Athens.  
 W. B. Hardman, M.D., Commerce.  
 A. G. Little, M.D., Valdosta.  
 T. C. Thompson, M.D., Vidalia.

Appointed by the President of the Medical Association of Georgia.

**THE HENRY COUNTY MEDICAL ASSOCIATION.**

August 9, 1918.

The Henry County Medical Association in regular session adopted the following resolutions:

Whereas, our friend and brother, Dr. B. E. Horton, of McDonough, Ga., has responded to the call of duty, and shown the patriotic spirit by making application for service in the Medical Corps, United States Army. We wish to communicate to Major Lyle, of 105 Capital Square, Atlanta, Ga., and through him to the Surgeon General, U. S. A., Washington, D. C., in an informal letter our in-

dorsement of him and the spirit that prompted his act.

In point of service Dr. Horton ranks as one of the oldest and most active physicians of Henry County.

During the long number of years that he has been in the county he has been a loyal member of the County, State and American Medical Associations.

Our relations with him in his professional life have been of the most pleasant nature and we recognize and appreciate his ability.

As a private citizen, his moral and religious life are above reproach.

We feel that in him the government has gained a man on whom it can rely to faithfully and efficiently perform any duty placed upon him.

(Signed)

J. A. COMBS, President.

C. H. PIERSON, Secretary.

**COLONEL BUSHNELL ON TUBERCULOSIS.**

George E. Bushnell, Col. U. S. A., retired, discusses the treatment of tuberculosis in the American Review of Tuberculosis, for July. Rest, fresh air, exercise, feeding, symptomatic treatment and tuberculin are taken up in turn. The object of any form of treatment is to aid the natural defenses that exist in any animal body, be it that of a guinea pig or that of a human being, which has received an initial slight immunizing infection. Pulmonary tuberculosis as it usually presents itself manifests a tendency to cure or at least a tendency to become localized. There can be no doubt that an immunity is present and that it is an immunity of a very high degree. It is reasonable to believe that comparatively slight effort demanded to acquire again the state of absolute resistance to the tubercle bacillus. The agents that have been found to be helpful in this regard are better oxygenation from abundance of fresh air, rest to restore the weakened nerves of the patient and lower demands upon his reparative powers, and good food well assimilated. These constitute the tripod of treatment; with them, wisely used, wonders can sometimes be accomplished but only, it should always be borne in mind, in cases in which there already exists an immunity which is capable of reinforcement. In tuberculosis we pre-

scribe not medicine, but a mode of life. The psychical side is that which is most neglected, yet in it the most notable successes are attained. Next to a good immunity and a good physician, the third most important desideratum in the treatment is faith in the physician and willingness to co-operate on the part of the patient.

The influence of rest in abating the severity of an inflammatory process is well known. The effect of motion and of friction in spreading infection from a suppurating focus is a familiar surgical fact. Not only should deep breathing be avoided, but motion of the upper extremities should be reduced to a minimum. Rest is also highly desirable to promote a cicatrization and encapsulation. And lastly rest of the body is needed for its recuperation. Psychic and physical relaxation should both be practiced. The neurasthenic tuberculous patient with the anaesthesia of fatigue or the restlessness of the overfatigued who are "too tired to rest" must learn to rest and relax not only to recreate his energy in some measure, but to store it up. Rest must be by all means associated with the outdoor life so far as is practicable.

The problem of exercise is one that will frequently tax the acumen of the physician. The febrile tuberculosis patient in whom the maximum daily temperature habitually exceeds 99.5 degrees F. should unquestionably be kept in bed. The best rule is to require the acute case to rest irrespective of temperature, as the condition becomes more chronic to be guided strictly by the thermometer, and when the case has become one that is progressing toward arrest to ignore the slight fluctuations of the temperature. Cases with large lesions must be treated with more severity as respects the enforcement of quietude than those with small lesions. Each case must be the subject of special study. As has been well said, the patient who begins to exercise has reached a period of danger in his course of treatment.

In cases where there has been a nutrition deficit the problem is easy—all that is necessary is to give the patient what and as much as he wants. For those that have no true deficit to make up, stuffing with food is only prejudicial. In many cases, difficulties of digestion are dependent upon the kind, rather than the amount of food.

The symptomatic treatment of the consumptive does not differ from that of other

patients, cough medicines should be used sparingly and only for special indications. The idea that expectoration is infectious for the patient and must be gotten rid of without delay is a error, as is the notion that it is extremely dangerous to swallow sputum. The physician can be of much comfort by teaching that the fugitive pains in various parts of the body and the various manifestations of indigestion are common in all those whose health is below par and have no direct communication with tuberculosis.

Tuberculin is most helpful to those who need help least. Advanced cases of tuberculosis are very seriously impaired by it. But the rather numerous class of sanatorium patients who have little or no active tuberculosis, their disease being of a chronic, though often diagnosed as acute type, are able to tolerate it, sometimes apparently to their advantage.

Bushnell, George E.: Treatment of Tuberculosis, *Am. Rev. Tub.*, 1918, Vol. 2, No. 5.

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### DO YOU KNOW THAT

Moderate exercise in the open air prolongs life.

Not everybody can achieve greatness, but everybody can be clean.

The U. S. Public Health Service issues free bulletins on tuberculosis.

It is dangerous to put anything into the mouth except food and drink?

Sanitary instruction is even more important than sanitary legislation?

The continuous liberal use of alcoholic beverages lowers efficiency and menaces longevity.

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## TREATMENT AND MISTREATMENT OF TUBERCULOSIS.

S. V. Wright, of Dallas, Texas, discusses the proper treatment of tuberculosis in the *American Review of Tuberculosis*, for July. When a case of tuberculosis is discovered the duty of the physician is not only toward the patient, but also toward the family. Immediate relatives and associates, especially young children, should be examined for tuberculosis and if clinically ill, or in the case of children, if undernourished, proper steps should be taken. Toward the patient the prime duty is to give him the proper education. As this is best achieved in an institution steps should be taken for his admission to such a one suited to his case. The relative importance of continued treatment after arrest of symptoms should be insisted on. He should be taught the proper attitude toward this disease, to take it just seriously enough and not too much so. He should learn that he must continue to observe these principles for a long time if he is to be restored to usefulness.

The recognized effectual measures are "nature's processes"—rest, good food, fresh air and sunshine, and graduated exercise. Adjuvants are medicine, surgery and artificial pneumothorax.

Wright, S. V.: *Tuberculosis: Its Treatment and Mistreatment*. *Am. Rev. Tub.*, 1918, Vol. 2, No. 5.

## SAVING AND SERVING.

By economizing in consumption and with the resultant saving purchasing the government's war securities the American citizen performs a double duty. The citizen and the government can not use the same labor and material; if the citizen uses its, the material and the labor can not be used by the government. If the citizen economizes in consumption, so much material and labor and transportation space is left free for government uses. And when the saving effected is lent to the government more money is thus placed at the disposal of the government.

The more the people save the more money, labor and materials are left for the winning of the war, the greater and more complete the support given to our fighting men.

## TUBERCULOSIS AND THE WASSERMANN REACTION.

H. J. Corper, of Chicago, publishes in the *American Review of Tuberculosis*, for July, the results of Wassermann reactions with over 2,500 sera of tuberculosis patients. He reviews the more recent literature dealing with the Wassermann reaction among different groups of people, including the tuberculous. He himself reports that among 1,395 men and 1,399 women residents of the city of Chicago Municipal Tuberculosis Sanatorium, a definite positive Wassermann reaction was obtained in 7.2 per cent of the men and 15.8 per cent of the women.

The incidence of a definite positive Wassermann reaction as far as this could be determined, did not reveal any striking differences from the above figures resulting from a classification of the cases according to different ages or different nationality, or race.

Corper, H. J., *The Results of the Wassermann Reaction in a Tuberculosis Sanatorium*, *Am. Rev. Tub.*, 1918, Vol. 2, No. 5.

## THE WASSERMANN AND BRUCK REACTIONS.

H. J. Corper and L. Fiala, of Chicago, report in the July number of the *American Review of Tuberculosis*, on the serochemical reaction of Bruck, which they tried on 228 sera in a tuberculosis sanatorium. They found this reaction for syphilis unreliable as a test to supplement the Wassermann reaction in the tuberculosis sanatorium. Of 14 Wassermann reacting sera six gave negative serochemical reaction. Of 213 negative Wassermann reacting sera, 113 gave a positive Bruck test. The percentage of positives was greater among the moderately advanced and far advanced cases of tuberculosis than among other classes of tuberculosis cases and of non-tuberculous cases. The Bruck technique was followed. A review of the literature is included in the paper.

Corper, H. J. and Fiala, L.: *A Comparison of the Wassermann Reaction and the Serochemical Reaction of Bruck in a Tuberculosis Sanatorium*, *Am. Rev. Tub.*, 1918, Vol. 2, No. 5.

An advertisement in *The Journal of the Medical Association of Georgia* will bring results. Rates sent on request.



**METHUSELAH AND LIFE IN THE OPEN.**

V. Y. Bowditch, of Boston, makes a plea for the value of fresh air, in the July number of the American Review of Tuberculosis. The observation of the wholesome efficacy of fresh air goes back as far as Hippocrates and has persisted through the centuries despite much popular superstition to the contrary. Its place in the proper treatment of tuberculosis, however exaggerated at one time, is generally acknowledged. The immediate occasion of Bowditch's paper is the publication in a well known New York periodical of an article on the "Superstition of Fresh Air," in which the author is quoted as advocating properly rewashed and recirculated air, but resorts in the end, in case the elaborate and expensive ventilating machinery fails, to the admission of outside air through opened windows, in other words, contradicts his original position of pronouncing fresh air unnecessary. Bowditch traces the development of the fresh air treatment of tuberculosis and shows how great were the gains made by patients under the new regimen. Instances of improved physical and mental condition among school children when given sufficient fresh air are cited. A simple and efficacious ventilating system is described.

Bowditch, V. Y.: Methuselah and Life in the Open, Am. Rev. Tub., 1918. Vol. 2, No. 5.

**AN AUGUST CONCEPTION.**

Samuel Taylor Coleridge, poet and essayist, writing some 75 years ago, said:

"The possible destiny of the United States of America as a Nation of a hundred million of free men, stretching from the Atlantic to the Pacific, living under the laws of Alfred and speaking the language of Shakespeare and Milton, is an august conception."

The United States is now a Nation of a hundred million and more, stretching from the Atlantic to the Pacific, and reaching out east takes in Hawaii and the Philippines, in the north Alaska, and in the south the Panama Canal. But grander than its physical is its moral greatness. Its fairness and justice, its courage and power, its maintenance of right and freedom cover the world.

The destiny the United States is now fulfilling is a more august conception than ever the imagination of the author of Kubla Khan conceived of less than a century ago.

**DID NOT BORROW TO BUY BONDS.**

The Federal Reserve Bulletin says that one of the most encouraging and gratifying features of the Third Liberty Loan is that apparently there has been little use of bank accommodations for the purchase of the bonds. It estimates that probably more than 80 per cent of the bonds are already fully paid for.

The financial statements of the various Federal reserve banks indicate, according to the Bulletin, that not much borrowing from the banks was done by the subscribers to the third loan. They either paid cash or bought on the installment plan.

This eases a great deal the burden of the banks, upon whose shoulders rests the financing of the business and industry of the country.

**THE PRESIDENT ON MOB SPIRIT.**

"I have called upon the Nation to put its great energy into this war and it has responded—responded with a spirit and a genius for action that has thrilled the world. I now call upon it, upon its men and women everywhere, to see to it that its laws are kept inviolate, its fame untarnished. \* \* \*

"I can never accept any man as a champion of liberty either for ourselves or for the world who does not reverence and obey the laws of our own beloved land, whose laws we ourselves have made. He has adopted the standards of the enemies of his country, whom he affects to despise."—President Wilson.

**"THE LABORATORY THAT KNOWS HOW."**

The Cutter Laboratory, of Berkeley, Calif., has for twenty years been serving the physicians of the country; but in order to better meet the requirements of the profession, they have reorganized and enlarged their Chicago office, and are better prepared than ever before to serve the interests of our readers. Accordingly, this Journal has accepted their page announcement, and is printing that announcement in this issue. If you find their service available for your practice, we bespeak for the Cutter Laboratory a share of your patronage.

## HIGH PRODUCTION OF ARMS AND MUNITIONS.

The attention of owners of Liberty Bonds and War Savings Stamps is called to the following. They are financing the work:

On one day in June last approximately 27,000,000 cartridges of various descriptions were produced in the United States manufacturing plants for the United States government.

The daily average production of United States Army rifles was broken in the week ending June 29th, an average of 10,142 rifles a day of a modified Enfield and Springfield type being maintained. In addition spare parts equivalent to several thousand rifles and several thousand Russian rifles were manufactured.

The Ordnance Department has produced 2,014,815,584 cartridges, 1,886,769 rifles and 82,540 machine guns since the United States entered the war. The daily output of cartridges is now 15,000,000.

## EXCHANGE OF LIBERTY BONDS.

The issue of registered bonds of the Third Liberty Loan has progressed so far that transfers and exchanges of registered for coupon bonds will be made on and after August 1st until August 15th. The registry books will be closed on the later date in order to prepare checks for interest payments on September 15th. Bonds may be presented during such period for transfer or exchange, but such transaction will be effected after September 15th and the September interest paid to whomever was holder of the bonds on August 15th.

Coupon bonds presented after August 15th for exchange for registered bonds should

have the September interest coupon detached; the registered bonds issued upon such exchange will bear interest from September 15th.

## DO YOU KNOW THAT

Smallpox is wholly preventable.

Infected towels spread eye diseases?

"Mouth breathing" makes children stupid.

Keeping healthy is a part of doing "your bit"?

The full dinner pail is the enemy of tuberculosis.

Peace hath her health problems no less than war?

Fish can not live in foul water nor man in foul air.

Constant vigilance is the price of freedom from flies?

America's typhoid fever bill is more than \$270,000,000 a year.

The physical vigor of its citizens is the nation's greatest asset?

The constitution of the United States doesn't mention health.

Railway cars would be sanitary if it weren't for the people in them.

## ARMY SURGEONS—NOTE!

This JOURNAL will be sent subscribers who are in military service at home or abroad, without additional expense, on receipt of full military address. Keep your address up to date by dropping a card to the Journal of the Medical Association of Georgia, Augusta, Ga.

## SQUIBB'S MINERAL OIL

called

### Liquid Petrolatum Squibb Heavy (Californian)

Specially refined under our control and exclusively for us only by the Standard Oil Company of California which has no connection with any other Standard Oil Company



THE QUALITY MINERAL OIL. SPECIALLY REFINED FOR INTERNAL USE. IS A PURE, COLORLESS, ODORLESS, TASTELESS MINERAL OIL OF THE NAPHTHENE SERIES, INERT AND HIGHLY RESISTANT TO CHEMICAL CHANGE. IT THEREFORE MAY BE PRESCRIBED FOR YOUNG OR OLD IN ANY SIZE DOSE INDICATED.

E. R. Squibb & Sons, 80 Beekman Street, New York City, N. Y.

# Stanolind

Reg. U. S. Pat. Off.

# Surgical Wax

A specially prepared, chemically pure, antiseptically-packed paraffin, for use in the hot wax treatment of burns.

Correct in melting point, in plasticity and ductility index.

Stanolind Surgical Wax is put up in quarter-pound cakes, individually wrapped in wax paper, carefully sealed, packed four cakes in a neat carton, and sold:

15c	per pound in	10 pound cases
14½c	per pound in	20 pound cases
14c	per pound in	40 pound cases
13c	per pound in	100 pound cases
Prices f. o. b. Chicago.		

Reports from numerous authorities indicate that Stanolind Surgical Wax gives results equal to any of the compounds made and sold at high prices.

## Stanolind Petrolatum

### IN FIVE GRADES

"Superla White" is pure, pearly white, all pigmentation being removed by thorough and repeated filtering. Does not contain nor require white wax to maintain its color.

"Ivory White," not so white as Superla, but compares favorably with grades usually sold as white petrolatum.

"Onyx," well suited as a base for white ointments, where absolute purity of color is not necessary. Com-

pares favorably with commercial cream petrolatum.

"Topaz" (a clear topaz bronze) has no counterpart—lighter than amber—darker than cream.

"Amber" compares in color with the commercial grades sold as extra amber—somewhat lighter than the ordinary petrolatums put up under this grade name.

Standard Oil Company of Indiana guarantees the purity of Stanolind Petrolatum in all grades.

## STANDARD OIL COMP. CO.

(Indiana)

*Manufacturers of Medicinal Products from Petroleum*

910 S. Michigan Avenue

Chicago, Ill.



# Adrenalin in Hay Fever

IN either of the forms mentioned below, Adrenalin, in a vast majority of cases, provides a rational and effective treatment for hay fever. Sprayed into the nostrils, this powerful astringent constricts the capillaries, arrests the nasal discharge; minimizes cough, headache and other reflex symptoms; hastens the resumption of natural breathing, and secures for the patient a marked degree of comfort.

## Adrenalin Chloride Solution

For spraying the nose and pharynx (after dilution with four to five times its volume of physiologic salt solution).

Supplied in ounce bottles, one in a carton.

## Adrenalin Inhalant

For spraying the nose and pharynx (full strength or diluted with three to four times its volume of olive oil).

Supplied in ounce bottles, one in a carton.

### THE GLASEPTIC NEBULIZER

is an ideal instrument for spraying the solutions above mentioned. It produces a fine spray and is suited to oils of all densities, as well as aqueous, spirituous and ethereal liquids. *Price, complete (with throat-piece), \$1.25.*

Laboratories: Detroit, Mich., U. S. A.;  
Windsor, Ont.; Hounslow, Eng.

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# THE JOURNAL

OF THE

## Medical Association of Georgia



PUBLISHED MONTHLY UNDER DIRECTION OF THE COUNCIL

Editorial and Business Office, Atlanta, Ga.

Subscription Price, \$1.00

Application made for entry at the Post Office at Atlanta, Ga., under the Act of March 3, 1879.

VOL. VIII

ATLANTA, GA., SEPTEMBER, 1918

No. 5

## THE SOUTHERN NUMBER

**Clinic of Dr. J. B. McElroy, Memphis General**  
Nephropathies (six cases).

**Clinic of Dr. George S. Bel, Charity Hospital,**  
New Orleans.

Typhoid fever complicated with purulent cerebrospinal typhoidal meningitis and no intestinal lesions.

A comparison of the essential pneumonias from the standpoint of their clinical significance.

**Clinic of Dr. Charles L. Minor, Asheville (N. C.) Mission Hospital**

Artificial pneumothorax (Forlanini).

**Clinic of James S. McLester, Major, M. R. C.,**  
Base Hospital, Camp Sheridan, Ala.

Prevention of the dissemination of disease.

**Clinic of Dr. B. W. Fontaine, Memphis General**  
Achondroplasia; tuberculosis of the peritoneum; syphilitic fever; diarsenol.

**Dr. C. C. Bass, Charity Hospital, New Orleans**  
Malaria: Diagnosis; treatment.

**Clinic of Dr. L. T. Royster, Foundling Ward,**  
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Care of the premature infant.

**Clinic of Dr. J. Ross Snyder, St. Vincent's**  
Study of ten pellagrins in two families.

**Clinic of Dr. J. H. Gibbes, Columbia Hospital**  
Hodgkin's disease. Reflex gastrospasm.

**Clinic of Dr. William H. Deaderick, Memorial**  
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Treatment of malaria: Quinine; hygiene.

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Atlanta, Ga.

Myocardial infarct following coronary sclerosis.

**Clinic of Dr. John P. Monroe, The Charlotte**  
Sanatorium

Severe headaches.

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## PLASTIC AND COSMETIC SURGERY.

**E. D. Highsmith, M.D., Atlanta**

It is the object of the writer to stimulate a greater interest among the medical profession in the special branch known as Plastic, Reconstructive, or Reparative Surgery which it seems has had very few or no charms for the general surgeon for a number of years, though it had a slight revival about the middle of the eighteenth century.

Plastic surgery could be divided into a number of different headings and a great deal could be said under each special head, but the main object is to correct defects and deformities, either congenital or acquired, and to restore function and for the cosmetic effect.

The deformities about the face usually involve the skin and the adjacent soft parts, though occasionally it involves the more dense structures. The plastic surgeon must have the highest regard for asepsis, a special knowledge of tissue transplantation and a good understanding of his anatomy, especially the blood and nerve supply. There are few cut and dried rules to be employed, but each case must be carefully studied and the various methods of repair considered. In

correcting deformities, it is far better to underdo than overdo. Skin-grafting is possibly one of the simplest forms of plastic surgery. There are a number of different methods employed. Thierce and Reverdin, in 1868 and 1871, devised a method of using thin grafts of skin and later the Wolff-Krause method came into use which involved the full thickness of the skin. There are other forms of grafts or transplants such as free fat grafts which if carefully handled can be used to a great advantage in filling cavities and defects though you must allow for a certain amount of shrinkage. We can also use to a great advantage bone and cartilage transplants. We have an abundant supply of cartilage at the rib extremities, also bone from the ribs on tibia is very accessible.

In rhinoplasty, occasionally we can use the hydro-carbon compounds to fill in small depressions, though this must be used with much care. If parafine is used at all, the melting point should be about 112 Fahrenheit and you should use an especially made syringe with a screw plunger in order that you will not accidentally inject too much parafine and overcorrect your deformity. There is also danger of parfine embolism when using parafine to correct nose deformities, and

for this reason, your assistants should make continuous pressure at the base of the nose until the parafine is thoroughly moulded and set. In correcting a nose where the point is too high and where the external nares are very narrow, you may remove a "V" shape from the septum or where the nares are wide, remove the "V" shape from each side. If there is only a slight correction to be made in this way it is best to make the "V" only through the mucous membrane and cartilage on each side near the lip, and in this way the scar is concealed. The case shown in lantern was of a young man twenty-eight years old without a septum. In this case the septum was constructed from mucous pedicles dissected from each side of the nose, the base of one pedicle above and the other below with the raw surfaces in apposition and sutured in the center which made a very good septum.

In case of saddle nose, fat, cartilage, or bone may be used.

Possibly one of the most frequent congenital deformities of the face is hair-lip and cleft-palate. The correction of cleft-palate and hair-lip is a three step operation. First, repair the separated alveoli. Second, repair the lip. Third, repair the hard and soft palate. If I can select the time, I prefer to do the first operation very early, say when the patient is about ten or twelve days old. At this age the patient's nervous system is not very well developed, hence they have very little pain or shock and they require only a very slight anaesthesia, and as the bones are very soft at this age, they can be easily bent and held in position with very little pressure. In completing the arch of the separated alveoli I think Brophy has a very simple method described as follows:

Pass a suture carrier threaded with a heavy braided silk through the upper jaw as far back as possible, just above the bony palate until the silk can be grasped with a forcep in the center of the cleft and held while the thread carrier is withdrawn. Do this on the opposite side leaving the loops in the center, then repeat this procedure on both sides just in front of the first loop.

Now as the silk loops are in the center, pass the left loop through the right, or vice-versa, and pull until the single loop extends all the way through. Do this with each set of loops. Bend the silver wire in "V" shape

and hook in the posterior loop and pull this until the wire extends all the way through. Pull a double wire through the front loop. Now trim the lead plates to fit the sides of the gum, perforate and slip over the silver wires. Press firmly in such a way they will not irritate, and see that the edges do not irritate the gums. Now put firm pressure on each side and in front until the arch is almost complete. Freshen the edges of the divided alveoli in such a way that you will get good apposition, then twist the wires until the margins on each side are held firmly together. Cut the ends of the wires and bend in such a way that the ends will not irritate the lip. It is necessary to observe sterile precautions in feeding and touch the gums daily with a ten per cent. argyrol solution and let the plates remain on from four to six weeks, depending on the age of the child. In the above operation, if the child is over six months old, the alveoli will have to be fractured and wired together instead of using the bending process. When the plates are removed at the end of from four to six weeks, the lip may be repaired.

There are a number of different incisions for doing harelips, each having its advantages and disadvantages, or a double harelip. I think the Rose operation, described by Blair, now Major in the Reserve Corps, is one of the best. In doing a harelips, it is single hair-lip, I think the Owen incision is one of the best. In doing a hair-lip, it is very necessary to relieve all tension by freeing the lip from its bony attachments thoroughly with scissors in order that the margins will come together easily without tension and close with horsehair or fine silk. Use Carpenter's Court Plaster Dressing and tension straps described by Brophy instead of tension sutures or the old fashioned hair-lip pins, to avoid scars. Remove dressings and sutures in about one week.

The repair of the hard and soft palate is done at about the age of eighteen months to two years, or just before the child begins to talk. In correcting the cleft palate it is of the greatest importance that the surgeon recall his anatomy, especially in reference to the palatine artery which is a posterior branch of the internal maxillary artery; also the location of the posterior palatine fossa, for so

often at this point the inexperienced surgeon will buttonhole his flap. With a right angle periosteal elevator the mucus membrane with its periosteum should be separated well back of its alveoli attachments on each side in order that the margins in the center may come together without tension. Split the mucus membrane of the edges on each side and put in tension sutures posteriorly with leaded plates on each side to relieve tension and prevent sloughing. Close in the center with horsehair or fine silk. Touch daily with argyrol solution and adhere to sterile feeding and slip a pasteboard cuff over each arm extending from the shoulder to the wrist. In this way the child has free movements of its arm but cannot get its hands in its mouth. Remove the plates and sutures at the expiration of ten days. Quoting Dr. Horsely, of Richmond, "Plastic operations are not always life-saving procedures, but the correcting of facial deformities not only relieves the physical discomfort of the patient and assuages his mental anguish, but gives relief to the inhabitants of the community in which the patient lives. The necessity of seeing daily someone with a hair-lip or a deformity of the nose is by no means an agreeable prospect. So if the philanthropist is one who makes two blades of grass grow where one formerly grew, plastic surgery of the face may be a philanthropic field. Surely it is of more importance to the community than the placing of monuments or the beautifying of streets."

#### DISCUSSION OF DR. HIGHSMITH'S PAPER.

**Dr. D. A. Selman, (Atlanta).**—It was my pleasure to be associated with Dr. Highsmith in a case of cleft palate that he has shown there, a colored baby, done about two months ago. Dr. Highsmith did for me the first stage. I had engaged him to do this bone work, but when the time came I was busy in an obstetrical case and he did it alone. He brought the premaxillary process back and brought the bone together and made a perfect arch to it. The baby came back in six weeks and the wires were removed, but unfortunately we let that get away without getting a photograph. It was a perfect result—as perfect a result as the baby shown here. There was no indenture of the lips

on either side and it was one of the best results that I have ever seen. I was very sorry that we did not get a photograph before they left town.

**Dr. J. L. Campbell, (Atlanta)**—Dr. Highsmith very modestly has not shown some of his best cases. It is an interesting study the development of a face in connection with this deformity. We see a great many of these cases in Atlanta, but unfortunately they are always destitute of money. Those that are able to pay generally go to Chicago to Dr. Brophy or someone away from Atlanta.

The face in embryo—the upper part—develops from three centers, a central point which comes from the bone forward and makes the lower part of the frontal bone, constituting the supra-orbital arch and the bridge of the nose and the vomer and the premaxillary bone. These receive their blood and nerve supply from one source, from the internal heart. The two lateral points pass forward along the side of the head and meet the central points and fuse in the side of the premaxillary bone, that is where the superior maxillary is developed laterally. The alveolar process, containing all of the teeth except the two central incisors, develop from these lateral points and the fusion takes place, so that the horizontal plate fuses to the lower border, and we have a complete mouth. I could not give you the exact percentage in which this fusion fails to take place, but it fails to take place occasionally on one side, occasionally on both sides; occasionally the vomer fuses to one side of the lateral point and occasionally to neither. Occasionally the premaxillary bone instead of coming down turns upward almost horizontally above. That is the class of cases that cause us the most trouble. That is so bad sometimes that it is impossible to bring the premaxillary bone down into position until you make a V-shaped incision and hold it in place with linen thread. Probably a good many of these cases do not have cleft palate, but simply a cleft in the upper lip. There is double harelip or single harelip. I have frequently made an operation for double harelip that has given good results, where you have one part of the lower lip developing from the premaxillary bone and coming down here. (Illustrate) That has given me better results than any tech-



nique I have ever tried. It prevents to a certain extent traction in the center.

**Dr. E. D. Highsmith (Atlanta).**—I want to thank Dr. Selman and Dr. Campbell for their discussion. The greatest help in doing good work is the time you get the patient. You can do it at any age but it is more satisfactory before four months. I had a patient who came one hundred miles with a baby twelve days old. I did a bony operation and they returned home the next day afterwards. If we could only get them at that age it would be very much better for the patient because there is so little shock.

### RECENT DEVELOPMENTS IN LABORATORY DIAGNOSIS.

**E. C. Thrash, M.D., Atlanta.**

However destructive the present war may be to human lives, the advancement in medical science will, no doubt, more than compensate all this loss; and the laboratory is receiving its full share of this advancement. It will be impossible to cover the whole field of recent important laboratory technique, so the essayist will attempt only to touch upon the more important subjects, the chief among which is the work done in the proper diagnosis and treatment of pneumonia and meningitis.

In wars of the past more soldiers have died of typhoid fever than from bullets, while, at present, typhoid vaccines have practically eliminated this disease from the armies of the world. A greater good, probably, than in saving the soldiers lives, has been accomplished in impressing the public of its value. It took one hundred years to make the public know that small-pox vaccination would prevent this disease; whereas typhoid vaccination has been impressed upon them so forcefully in the past two or three years that the people are clamoring to be protected against this dreaded malady.

In the last four or five years when a transfusion was needed, one would begin to look around for some surgeon who had made a special study of the Crile method and usually he would not be available. Now it is reduced to a degree of simplicity that the veriest tyro can administer it with the ease that he would give an intravenous injection

of cacodylate of sodium. The process now means only the binding of the donor's and recipient's arms and taking a hundred cubic centimeter syringe, filling it one-fourth full of a one per cent. solution of sodium citrate, drawing seventy-five cubic centimeters out of the donor's arm and injecting it immediately into that of the recipient. This can be repeated as often as the recipient may desire. The only precaution to be taken is to keep the stylet in each of the needles not being used while the blood is being drawn or injected in order to prevent the needles being plugged with a clot. The obstacles of transfusion is not the operation itself, but the proper selection of a donor. This selection can be made only after the bloods have been tested and see whether or not they agglutinate each other. This can be done only in a laboratory prepared for such work. It is accomplished by placing the diluted blood cells of the donor in the serum of the of the recipient, and vice versa. Behavior of the cells in the respective sera is studied under the microscope to see whether or not there is agglutination in either instance. If agglutination is found to be present a different donor is selected.

A recent test worth mentioning is one to detect whether or not the patient is suffering from hematogenous or hepatogenous jaundice. Hematogenous jaundice is due to some principle in the blood which breaks up the cells, setting free pigment which gives the patient a jaundiced appearance. This test is based upon the fragility of the patients red cells. Twelve small test tubes are taken and twelve drops of a 5.10 per cent. solution is put in the first tube and one drop less is put in each of the other tubes respectively, then beginning with the tube containing one drop of 5.10 per cent. salt solution, add twelve drops of sterile water to this tube and decrease one drop until the tube containing twelve drops of the salt solution is reached. Then one drop of the patients blood is placed in each of these tubes and shaken quickly to prevent coagulation. The control is made by putting one drop of a normal person's blood in each of a set of tubes prepared in the same manner. These tubes are set aside from eight to ten hours and comparison is made to see whether or not hemolysis has taken place in a greater number of the patients tubes than of those

of the normal blood, which will indicate whether or not the patients cells have a greater degree of fragility than normal.

Observations have recently been made upon meningitis which will, no doubt, clear up the question as to why meningitis serum will cure some cases of the disease and have but little or no effect upon other of no greater severity. The reason of this is that there are varying strains of the diplococcus meningitis. The strain of each sufferer by recent laboratory developments can be detected and the proper serum used to cure the disease. This can be accomplished by making a culture of the germs in the sera from the respective strains. The serum which produces agglutination of the germs which are being studied is the one which will act as a specific in this disease. This work is of such recent origin that the varying types of serum are not at present available, but in the near future laboratories will be supplied with small ampules of serum from each strain of diplococcus meningitidis numbering these ampules of serum so that a test may be made and the clinician notified from the laboratory which number of the series to use.

The best work probably done in recent months has been accomplished in the study of pneumonia. It has been found that the types of germs producing this diseases can be placed into four groups. This discovery was made by taking hundreds of cases of all forms of pneumonia, and inoculating horses with their toxins. The serum was taken from these inoculated horses and the germs of different types of pneumonia was tested and their behavior studied in the presence of these various sera, as to whether the agglutination or precipitation would take place. About 13-15 per cent. of all pneumonias has been found to belong to group I, about 15 to 20 per cent. to group II, and about the same number to group III, the remaining cases are in group IV, the latter of which is a mixed infection type. A serum is now being prepared which is as efficient in curing group I as diphtheria antitoxin is in curing diphtheria. The sera for groups II and III is of benefit, but cannot be considered specific. Serum for group IV produces no beneficial results since this group is a mixed infection type.

The technic for differentiating different

types is as follows: The specimen of sputum is obtained from the infected area, placed first in alcohol to destroy any germs that may have attached themselves to the sputum in the passage through the bronchial tubes and mouth, take it immediately from the alcohol, wash it thoroughly in sterile water, then grind it well in mortar, make an emulsion of this well ground sputum, and inoculate either white mice or a specially prepared culture medium. The white mice are opened up after ten to twelve hours, the peritoneum washed, from which is procured a pure culture of the germs. If the culture medium is used a pure culture is obtained in this way. In either instance equal parts of the emulsion of the germs are placed in the serum from each of the four groups of pneumonia. These sera must be supplied either from the government laboratories or laboratories specially prepared to make them. The four mixtures of sera and bacterial emulsions are placed in the incubator for an hour, after which each one is observed under the microscope to note whether or not there is agglutination. The serial number of the serum which agglutinates the germs will indicate the type of pneumonia from which the germs come. If it is found to belong to type I, number I serum is purchased and if the case is not far advanced and extremely severe, improvement will be noted in a few hours, and a cure almost certain to occur.

Recently experiments have been made with the urine, which bids fair to give good results in making this test, but it has not been sufficiently tested to be depended upon for practical work. The writer has found mouse injection so simple and efficient that he uses it exclusively. Wild mice answer as well as white ones.

## PROSTATECTOMY IN TWO STAGES.\*

By W. L. Champion, M.D., F.A.C.S.  
Atlanta, Ga.

Within the past few years the careful selection of prostates for operation, the more thorough preparation of each case, and the improved technique has lowered the mortality of prostatectomy to a marked degree. But with the careful selection and preparation, and in the hands of the most skilled

operators there will always be more or less mortality on account of the age of the patients and the fact that it is impossible to know that any given case is a good, or I might say, sure risk. This fact has probably been brought home to all who do prostatic work by having a patient do nicely for several days following the removal of the gland then suddenly die. Too much care cannot be exercised in separating the cases that should be operated upon and those that should not.

One that is selected as a good risk will fail to survive some serious complication while the doubtful case will often surprise us with an uneventful recovery, and a short stay in the hospital. Occurrences of this kind will happen after making functional kidney tests and eliminating the probability of organic changes elsewhere. Therefore the careful study of each individual case, the selection of the anesthetic that is the least harmful, together with the proper preparation will give the prostatic the best chance for recovery.

In my opinion there is no preparation that will equal in value a suprapubic cystotomy done for the purpose of drainage a week or ten days prior to removing the prostate. To the casual observer it would seem quite unnecessary to delay until a future date the completion of the operation when the bladder is open and the finger is upon the gland. But when we consider the patient, the pathology with which we are contending, not only the pathology which is revealed by palpation of the gland itself, but that which is in more distant localities caused directly by the obstruction; we can readily see the benefit to be derived by relieving the pressure and having thorough drainage of the bladder for a week preceding the prostatectomy.

What does the preliminary cystotomy accomplish? And why does it give the patient a better chance to survive the operation? Because in nearly all of the cases the general condition is bad or below par on account of the troublesome bladder symptoms that prevent the normal rest.

The cystotomy gives complete rest to the bladder for ten days preceding the prostatectomy. If the patient has been using a catheter this annoying operation is dispensed with; the bladder is put at complete rest,

the congestion of the bladder, urethra and prostate is relieved. The cystotomy facilitates irrigation of the bladder thereby giving us a cleaner and nearer normal condition of the bladder mucosa when we come to the removal of the gland. Shock is diminished by having the bladder already open when the prostate is to be removed.

The size of the gland is markedly reduced after the ten days drainage. Hemorrhage after enucleation is less. The periprostatic, perivesical and rectal tissues that are congested and enlarged on account of the obstruction and constant straining effort to urinate, are allowed to approach a more normal condition. The dilated ureters are given a chance to recuperate. The kidneys that are congested from backward pressure of the urine, and which have been laboring for months or years to perform their normal function will in ten days after the relief of the backward pressure be better prepared to stand the shock of prostatectomy, and the patient will be less likely to develop uremia.

The cystotomy can be done under local anesthesia and the removal of the gland under nitrous oxide and oxygen or spinal anesthesia, but I prefer gas-oxygen or spinal anesthesia for both stages. I have used spinal anesthesia at Grady Hospital (Dr. T. B. Armstrong giving the anesthetic) in ten cases for both stages of the operation with beautiful results.

When the cystotomy is done the incision in the abdominal wall should be only long enough to get a view of the bladder, and the incision in the bladder of sufficient size to admit the finger for exploration. A three-quarter inch drainage tube is inserted into the bladder, the wound closed, and the tube attached to the skin. A tube of this calibre is used so at the time the gland is to be removed the opening will be sufficient to admit the finger and permit the removal of the gland.

After the patient is returned to bed, if gas-oxygen or spinal anesthesia is used there is no nausea so water can be given at once and should be given freely and the patient properly nourished until the second stage a week or ten days later. A catheter placed in the bladder through the urethra for drainage does not put the bladder at complete rest as does the suprapubic opening, for



the catheter by irritating the urethra, getting stopped up or slipping entirely out.

I have used on several occasions a large trocar and cannula to aspirate a distended bladder in a prostatic, and after emptying the bladder pass a soft rubber catheter through the cannula, then remove the cannula leaving the catheter in the suprapubic opening with the eye in the bladder fixing the catheter to the skin with a silk ligature. With a catheter so placed the bladder can be drained for any period of time desired or until the patient's condition will warrant the removal of the prostate. This procedure I would not advise as a routine, because it will not accomplish what a large opening will and you still have the combined shock of opening the abdominal wall and removing the prostate, which the two-stage operation prevents.

Within a week or ten days if the patient's condition is good he is returned to the operating room for the second stage of the operation. After the anesthesia is accomplished, the suprapubic tube is removed and two gloved fingers inserted into the rectum, and the index finger of the other hand passed into the bladder and the prostate enucleated. The operation will consume only a few minutes unless the prostate is of the hard, fibrous variety. With the use of forceps it is surprising how large a gland can be coaxed through a small opening. In case of a very large prostate it may be necessary to enlarge the opening or break up the gland or separate the lobules if it is of the adenomatous variety. The opening should not be enlarged unless necessary, as the smaller the opening in the bladder and abdominal wall the sooner it will close and the patient commence to void in the natural way. After thorough irrigation with hot water a three-quarter inch tube is inserted and the bladder and abdominal wall made to hug it closely.

The bladder is not irrigated after the second stage unless the tube becomes stopped, and then only sufficient water is used to clear the tube. The tube is removed on the fifth day and a catheter passed through the urethra into the bladder for drainage. If the catheter is properly placed the patient can be kept dry and the suprapubic opening will close sooner. Morphine should be given when necessary to make the patient comfortable. It will do no harm and frequently much good.

In my experience the two-stage operation does not prolong the stay of the patient in the hospital, and unquestionably increases his chances for recovery. As we glance over the literature of today we note more advocates of the two-stage operation and I am sure the number will continue to increase.

313-14-15 Grant Building, Atlanta, Ga.

#### **Discussion of Dr. Champion's Paper.**

**Dr. W. S. Goldsmith (Atlanta):** The horror of prostatic surgery to my mind has been largely overcome by the two-step suprapubic operation. In the days when we attempted to open the bladder and enucleate the prostate at one operation, it meant that our mortality was exceeding large, and there was no excuse for this mortality except our lack of judgment in trying to do too much, because the patients who at that stage submitted themselves for relief were in such bad physical condition, and were uremic and also had infection, and then we submitted them to the additional trauma of having the prostate gouged out. In this two-step operation preliminary drainage is made to relieve the back pressure and the bladder irritation, and above all, to relieve the irritation of the bladder spinetters. I can see no possible excuse in the world for the insertion of a rubber catheter to drain the bladder as a preliminary treatment to the suprapubic operation, but the bladder should be opened. As the doctor said, give spinal anaesthesia—although I want to say, no spinal anaesthesia for me—and then introduce a small tube instead of a large tube, and we will get drainage in such a way that there will be very little leakage. Then when the urine is sweetened the patient should be fed water, water and water, and when he is passing large quantities, when his temperature is down, when his appetite is returning, when his secretions have reached normal, then with gas oxide or straight ether, an opening is cut and the prostate enucleated. But I would oppose the introduction of a large drainage tube. The two-step operation will save practically every man with a hypertrophied prostate. It will clean up the infection, relieve the back pressure, and give us an opportunity for repair and cure, and with bladder condition that we will not have in anything except the two-step operation.

**Dr. E. P. Merritt (Atlanta):** One point I want to make is that I think most bladders are infected when they come to you for prostate, and in doing the two-step operation you get drainage over quite a surface, and I think there is a certain amount of autogenous infection set up there. One of the greatest complications in prostatic surgery is the kidneys and heart, as in any other operation, but the main thing that we must watch is the kidney function. It is always best to make the phthalein test and its urea output before you cut a man, if it is possible to be done. If you find the kidneys are very low, say excreting about twenty per cent. you can go ahead and do the first stage.

Another thing is the injection of novocain in the field of operation. It seems to reduce the shock a great deal, and above all, the anaesthetic is the main thing and gas oxide. I have always found to be very safe. You do not get any lung complications as a rule, you do not get any shock to amount to anything, and I think that is really the best procedure that a man can take. If you do not get thorough relaxation, then you have to use a little ether.

**Dr. H. Y. Righton (Savannah):** One point was brought to my mind not long ago when I operated on an old gentleman 86 years of age. The night before he had had a catheterization by his family physician, and this has caused a terrific hemorrhage, and he was suffering pain and showed signs of a marked cystitis. His blood pressure was about 200, he had a mitral murmur, and I saw it was a case of operating as a last resort. I did a cystotomy under novocain and he immediately began to improve. Dr. Champion spoke about waiting about seven days. I think it is necessary to wait until the conditions warrant surgical procedure. I think after a cystotomy you will find the blood pressure will fall. In the case of this old gentleman I waited until his blood pressure had fallen to 160, his urine had cleared up a little, and he was getting very tired of being drained, so I thought I would remove the large tube and use catheter drainage. His temperature shot up, he developed a chill. I removed the catheter, and his condition immediately improved. I removed the prostate under gas oxide, it only took about twelve minutes and he did very nicely, but

he developed a cough about seven or eight days afterwards, and I thought probably the end was near, but I used medication to overcome that, and then I started the Murphy drip. He showed no evidence of nausea, we induced him to drink a great deal of water, and everything went on very well. The point I want to bring out is not to wait any definite time, but to wait until the pulse and blood pressure fall.

**Dr. George R. White (Savannah):** The two-step operation is a hobby of mine and I cannot let an opportunity go by without speaking of it. I first read of it in Pilcher's Year-Book in 1913. Later the procedure and the reason for doing it was developed most admirably by the late Dr. Paul Pilcher in the *Annals of Surgery*, about 1914. Before I began to use this method my mortality was high, something between twenty and thirty per cent., I regret to say. I have now had something over twenty cases by the two-step operation with no mortality at all, all due to this method. The points that have been made are all good, except that you cannot follow a routine in all cases, because the cases are so different. The thing we want to get away from is the use of a catheter. If we can have supra-pubic drainage throughout, we will avoid the complication of epididymitis, and a great deal of inflammation. Hemorrhage is a feature in some cases, and for that I use a Pilcher bag and control the hemorrhage by pressure. As to hiccoughs, drugs will not always control that, but small doses of apomorphia hypodermically will sometimes control when other drugs will not.

**Dr. W. L. Champion (Atlanta):** Dr. Righton spoke about the length of time. I did not mean to do this second stage in a week or ten days, because in some cases I wait two or three weeks longer, until the conditions are right, they want us to do it as soon as we can.

In regard to hemorrhage, I have been very successful with normal horse serum. I think Dr. Pilcher was the first man to do this operation. This paper is not intended to be original ideas of my own, because it is only in the last fourteen months that I have been doing it, but I have not lost a single patient since I attempted this operation, and before that my mortality was higher than I liked to see it.

**EARACHE AND DEAFNESS.**

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Next to good vision, good hearing is of the greatest importance to mankind. The deaf live in another world, the "hard of hearing" are pitifully trying to regain their station in society. And, I might add, they are trying in vain.

Defective vision is usually attended to at once, but defective hearing is allowed to progress until it causes considerable inconvenience before any effort is made to remedy it. Taking the term "deaf" to mean "that element of the population in which the sense of hearing is either wholly absent or is so slight as to be of no practical value; or, in which there is an inability to hear and understand spoken language; or, in which there exists no real sound perception," there were 37,426 deaf persons in the United States in 1900, according to the twelfth census.

The Thirteenth census (1900) listed deaf and dumb persons together, registering a total of 43,812.

In 1900 there were 12,678 deaf persons over ten years of age employed in gainful occupations (38.1 per cent. of the total number of deaf persons over ten years of age), and 11,679 deaf over twenty years of age in gainful occupations (50.1 per cent. of all deaf persons over twenty years of age); so that, of 37,426 deaf persons in the United States in 1900, 24,348 were wage earners, leaving 13,078 persons dependent on others.

Just how many persons are "hard of hearing" to the extent that they are unable to pursue their usual vocation or to attend public schools, we can not say, but they must be legion. Allport estimates that there are 1,000,000 children in the public schools with defective ears.

**The Cause of Deafness.**

Deafness is caused by diseases of the conductive portion of the ear, and diseases of the perceptive apparatus, diseases of the conductive portion forming about 90 per cent. of all cases.

Chronic progressive (catarrhal) deafness

is synonymous with chronic catarrh of the middle ear—O. M. 'C'. Chronic catarrh results from frequent acute inflammation, so that every case of chronic deafness gives a history of acute catarrhal otitis, the predominating symptom of which is ear ache.

Earaches, I believe we will all agree, are common, so much so that they are looked upon as one of the "ills the flesh is heir to," and it is rather unusual that a doctor is called. He is certainly seldom consulted until after all the home remedies have been tried and found wanting. Earache is not a disease. It is only a symptom, just as a rise in temperature is a symptom.

Among the predisposing causes of acute catarrhal otitis, and later chronic catarrhal otitis (deafness), adenoids and tonsils are held by most writers of note to be the most important in children, and nasal obstruction, in adults.

**Treatment of Deafness.**

Owing to the fact that persons with defective hearing do not apply for treatment until later in the disease, practically nothing can be done for them. Certain it is that chronic catarrhal deafness has proven incurable. Time has witnessed many beautiful theories and treatments that have fallen by the wayside valueless, so far as restoring ears to their normal condition. Inflation, massage, eustachian bougies and applications, tightening the loose drum with cantharides, electricity; I have tried them all. I have removed adenoids and tonsils, done submucous resections of the septum, removed cystic and hypertrophied turbinates and polyps, in addition to local treatment, in my effort to cure chronic deafness, and I have yet to restore lost hearing to normal. My experience has been the experience of others. I doubt if ever there has been a case of chronic catarrhal deafness cured.

The only way to cure deafness is to prevent it. Prophylaxis has produced wonderful results in other diseases, and with proper attention paid to it, will produce results in the treatment of deafness. The prevention of deafness is a big and many sided subject, one upon which a volume could be written. I will limit myself to a discussion of deafness resulting from catarrhal conditions, not forgetting to remind you, however, that deafness from syphilis and tuberculosis



is preventable There are just three points I wish to emphasize, namely:

(A) The importance of giving proper attention to the aching ear,

(B) The importance of the early removal of adenoids and large tonsils.

(C) The importance of removing nasal obstructions.

(A) The Earache.

Every aching ear means something. It is nature's warning that something is wrong. In order to give it rational treatment we must first find out what is causing the pain, which, remember, is just one symptom. It is impossible to diagnose the disease causing the earache without examining the ear. In various diseases and conditions the character of the pain differs, but a diagnosis can not be made on this alone. Fever may or may not be present, but a diagnosis can not be made on this alone. Deafness may or may not be present, but a diagnosis can not be made on this alone. The character of the pain, the fever, the deafness may all be considered, but a diagnosis can not be made on these by themselves. One doing ear work may be reasonably sure of the diagnosis without an examination, basing his opinion on the other symptoms and his experience with them, but to know just what condition one has to treat one must

examine the ear.

Now, if these statements are accepted as true and I do not believe any one will take issue with them—; if they are true, we are compelled to admit that we have fallen short of our duty to our patients, if we have prescribed for these aching ears without examining them. A head-mirror and a set of ear specula, or any of the many electric ear sets on the market is all that is needed in the way of instruments. A little practice will enable any one to obtain a good view of the canal and drum. It does not take special training to be able to recognize a localized swelling in the canal wall, or a red or bulging drum or any of the other objective signs that may present themselves

The diseases causing earache may be grouped under two heads; first, diseases of the middle ear, including acute and chronic catarrh and acute and chronic suppuration; secondly, diseases of the external ear, including circumscribed otitis, furunculosis, foreign body and impacted cerumen.

I said a few moments ago, and will repeat now for emphasis, that it is impossible to diagnose the diseases causing earache without taking into consideration the objective signs found upon inspection. These signs, primary causes and other symptoms follow:

Disease.	Cause.	Fever.	Pain.	Objective Sign.
Acute Middle Ear Catarrh	Acute colds, specific fevers; adenoids, tonsils, etc.	Slight in adults. High in children.	Sharp, Paroxysmal, worst at night	Drum uniformly red and bulging. Fluid may be seen.
Acute middle ear suppuration.	Same as above.	Absent in adults, usually. High in children.	Continuous, intense, ceasing when drum is opened.	Same as above at first, or a perforation may be seen pus discharging.
Inflammation external ear circumscribed.	Infection of hair follicle from using matches, etc., to remove wax.	Not present usually.	Continuous worse at night Made worse by moving auricle.	Localized swelling at some point in the external canal.
Inflammation external ear diffuse.	Traumatism, hot or caustic fluids, etc.	Not present usually.	Dull, deepseated and intense	Uniform swelling or redness of canal wall.
Foreign body inanimate.	Any foreign substance in meatus.	None	Neuralgia not always present.	Foreign body seen in canal.
Foreign body animate.	Small insects.	None	Same as above.	Insect seen in canal.
Impacted cerumen.	Retained secretion of cerumen from various causes.	None	Same as above.	Mass varying in size and color in canal.

In a certain series of cases in my private practice, in which ear ache was the only complaint, 62 per cent. was caused by acute middle ear catarrh and suppuration. When we consider that many earaches are not brought to the attention of the doctor and that practically all of them that recover without medical attention are caused by acute middle ear catarrh, we may, I believe, safely estimate that 75 per cent. of all earaches is caused by acute middle ear trouble. Every discharging ear, every mastoid operation and 90 per cent. of all deaf ears started with earache, which was not given the proper attention. From this, we see how important it is in the prevention of deafness, to teach the public to seek medical attention for earache. And it is equally important that, having been called to treat the aching ear we examine it and treat it rationally.

Since it is acute middle ear catarrh that will be met with most, we briefly outline a treatment that I have used for the past seven years with wonderful results. I am indebted to my friend J. D. Thomson, of Atlanta, for the suggestion that the fluid contained within the cavity of the middle ear can be drawn through the drum membrane by osmosis, by the use of a hot solution of high specific gravity. After using equal parts of glycerine and saturated aqueous solution of magnesium sulphate, and later saturated solution of magnesium sulphate in glycerine, I have for the last three years been using the following prescription:

Magnes. Sulphat.                      oz. VIII

Ac. Carbolic                              gr. I

Glycerine.                                oz. I

M. ft. sol. (Heat method)

Sig. Shake and pour into ear as hot as possible, every fifteen minutes.

In acute middle ear catarrh we have an inflammation, with the pouring out of watery secretion, and pain to deal with. If we stop the inflammation, the pain will cease when the fluid is absorbed and pressure relieved. In addition to the osmotic action of the hot high-specific-gravity solution in the above prescription, we get an anesthesia with the carbolic acid it contains. The solution must be used hot, for heat is necessary to produce osmosis. I have the solution heated in a spoon held over a match or candle, (testing a drop with the back of the wrist to see that it is not too hot) and poured out of

the spoon into the ear where it remains for five or ten minutes. A hot water bottle placed on the ear will help retain the heat and add to the osmotic action. I order this used every fifteen minutes until the pain is relieved, which happens in from an hour to several hours. The very severe, excruciating, throbbing pain is relieved by the first instillation, usually, but if treatment is not kept up until the fluid is drawn through the drum, some pain will remain and it will eventually return just as severe as in the beginning. It is rare that I have to do a myringotomy; however, should this treatment fail to relieve the pain, should inspection a few hours after beginning treatment reveal no improvement in the appearance of the drum, a free myringotomy should be performed.

### (B) Adenoids and Large Tonsils.

The early removal of adenoids and large tonsils in children who have had one attack of acute middle ear trouble is, in my opinion, a rational procedure in the prevention of deafness. It is unnecessary to enter into a discussion of the relation between adenoids and tonsils and deafness. That they are the most frequent constant predisposing cause of acute (and chronic) otitis media is a well established fact. Their removal is recommended in the treatment of deafness. Will not their removal in the very beginning of ear trouble, after the first attack of middle ear catarrh, prevent, to a considerable degree, deafness?

Among the 20,000,000 children in the public schools, Allport says that 6,000,000 have operable tonsils and adenoids. In other words, nearly one third of the children of the United States are predisposed to deafness by reason of having adenoids and tonsils that need to be removed. Since one out of every twenty already have ears that are defective, the importance of operating on the 6,000,000 as a prophylactic measure is readily seen.

### (C) Nasal Obstruction.

Chronic catarrhal deafness coming on in adult life is most frequent secondary to chronic nasal catarrh. The connection between the two diseases can not be disputed. One is simply an extension of the other through the eustachian tube. Very frequently there exists hypertrophied turbinates, espec-

ially the middle turbinate and the posterior end of the inferior, and deflected septa which obstruct the nasal passages, interfering with aeration and drainage of the ears. It is not possible to have normal ears without free breathing space and good drainage. Every obstruction should be removed, especially posterior hypertrophies of the inferior turbinate. If the nose is made to perform its function, the ears will not be liable to become deaf from chronic catarrh. We have been correcting nasal obstruction in our effort to cure chronic otitis media, and have no doubt done some good. But we can do so much more by operating before the ears become the seat of trouble. We should warn our patients, every one of them, that abnormal nasal passages predispose to abnormal ears; that the treatment of deafness is very unsatisfactory; that the slightest indication of ear trouble should receive immediate attention; and, that, after all is said and done, the best treatment and only cure for catarrhal deafness is prophylaxis.

224-226 Bunn Bldg.

#### DISCUSSION OF DR. MASON'S PAPER.

**Dr. H. M. Lokey, (Atlanta):** In regard to the solution of magnesium sulphate and glycerin, I have been using this solution for a number of years, and up to this winter, about nine out of ten cases that I saw were relieved by this. But during this past winter, from along during the early part of December until the present time, we have had some sort of a streptococcus infection to deal with that has not yielded to this treatment. In other words, where nine out of ten cases heretofore have yielded, in the past few months about one out of ten yielded. This was entirely due to the nature of the infection.

In these chronic cases of deafness he speaks of, in my experience the most cases of chronic deafness that you get hold of in people forty years of age and up, they will give a history of ear trouble in early childhood, earache or abscessed ears, or something like that: from middle youth to middle age they have had no history of ear trouble, but after forty years of age they show signs of deafness, both chronic catarrh and otitis.

In regard to the prevention of deafness, I made it a point in lecturing to bring out

that the most important thing in the treatment of the nose and throat is the care and attention to the nose and throat during the febrile diseases, that is, typhoid, scarlet fever, diphtheria, measles, whooping cough and even in mumps. The most obstinate cases of suppurative otitis are those that come along after typhoid, pneumonia, scarlet fever or measles, and in after years these are the most serious cases to deal with. Every practitioner who has a trained nurse in attendance should caution her about proper prophylactic care of the nose, throat and mouth, keeping the tongue clean and the nasal pharynx clean, to prevent as far as possible this infection through the Eustachian tube to the middle ear. It is very important that this be done either by one's physician or some member of the family.

**Dr. Dunbar Roy, (Atlanta):** I want to congratulate Dr. Mason on the excellency of his papers he has read. There are a good many points which the general practitioner should know something about. With reference to earache in children and with adults, they are treated differently. In regard to the earaches in children, I have not gotten the results from sodium sulphate that Dr. Mason has, and have discarded it. When you have an exudate in the middle ear, and there is a great deal of serum exudate in the middle ear, it should be taken out somehow or other. Either nature will rupture that drum membrane, or you must rupture it. So that in all these cases I think the drum ought to be punctured and the exudate gotten out as soon as possible, because you will get a quicker result and a better result later on. I am fully convinced in my own mind that is the best method. After having been in practice twenty-five years I am convinced that that is the only way to manage an earache in a child where it is an acute inflammation of the middle ear. In the adult it is different. There you have a larger Eustachian tube and a larger middle ear, and while you have pain and congestion of the drum membrane, in a great many cases you can abort acute inflammation by proper treatment. During the last ten years the method which I use and which has been very successful, as I have relieved more than 500 cases, is to make a small wire with a little cotton applicator and dip into a twenty grain solution of nitrate of



silver and pass it through to the isthmus of the Eustachian tube. In numbers of these cases, when we see them any time in the first twenty four hours we can nearly always relieve the acute inflammation.

As Dr. Mason says, the great thing is prophylaxis. Fifteen years ago I saw a dozen suppurative cases where I do not see one now. That is due to the school inspection, where the adenoids and tonsils have been called to the attention of the general public and they are operated, and since then we do not have as much deafness and running ears, and it is all on account of prophylactic measures.

With reference to deafness, it is one of the darkest cases in otological work, the fact that we have not been able to cure these cases of progressive deafness. We must realize that there are two kinds of deafness; that due to traumatism, and when we get at the bottom of it we can accomplish a great deal; but if the trouble is inside the capsule, any treatment we use will do absolutely no good, and the only way we can tell which it is by minute differential tests by means of a tuning fork.

**Dr. J. T. Maxwell, (Savannah):** I wish to commend this paper because of the fact that it is valuable to the general practitioner as well as to the specialist. I have had greater success with the sulphate of magnesia and glycerin solution than Dr. Roy, although I agree with him that paracentesis of the drum membrane is the correct thing to do. The trouble is that the practitioner in the country cannot get every patient with ear-ache to come to a specialist, whereas if a puncture of the membrane is done by a man without great skill, tremendous harm can be done. We see cases where the membrane was punctured by the smallest knife the doctor had at hand, and the ear spoiled by the operation. For that reason I consider it an operation that should not be carried on by one who has not had a great deal of experience. In using the magnesium sulphate solution, I have been using a fountain syringe with a Fowler ear douche, so that the warm or hot water can pass directly against the one membrane, and in the bottom of the glass is a drainage tube, which will carry the water away. I find this is of tremendous value. I had a severe attack

myself about a year ago, and I used that with such pleasure to myself that I have tried it even more systematically than before, and the more I use it the better I like it.

**Dr. A. B. Mason, (Waycross):** My experience this winter has been the same as that of Dr. Lokey. I have seen more ear cases and had to do more paracentesis this winter than all others combined. We have had appendicitis and measles and pneumonia, and have had the type of ear trouble that they have in the east. Six of these cases on which I did a paracentesis, but without using this solution, went on to a mastoid operation, none of the others developed mastoiditis. I am afraid Dr. Roy did not use the solution hot enough or often enough. I have very few cases where this has not given relief in half a day.

I, too, have seen ears ruined by having knives stuck into them. Sometimes these canals are so very small that it is hard, with a good light, to follow your knife and be sure just what you are about. Free myringotomy, if done early, is the best treatment—outside of my solution.

## SYNOPSIS OF THE GEORGIA LAW BEARING ON VITAL STATISTICS.

**Art. 1** Provides that State Board of Health shall have charge of "the registration of births and deaths; shall prepare the necessary instructions, forms and blanks for obtaining and preserving such records, and shall procure the faithful registration of the same in each primary registration district as constituted in Section 3, of this Act (and in the central bureau of vital statistics at the capitol of the State." Said Board is charged with the uniform and thorough enforcement of the law throughout the State, and shall from time to time recommend any additional legislation that may be necessary for this purpose.

**Art. 2.** The Secretary of the State Board of Health shall have general supervision over the central bureau of vital statistics, which is hereby authorized to be established by said Board, and which shall be under the immediate direction of the State Registrar of vital statistics, whom the State Board of Health shall appoint within 30 days after

the taking effect of this law, and who shall be a medical practitioner of not less than five years practice in his profession and a competent vital statistician. Said State registrar shall hold office for four years, and until his successor has been appointed and has qualified, unless such office shall sooner become vacant by death, disqualification, operation of law or other causes. Any vacancy to be filled for unexpired term, by State Board of Health, at least ten days before expiration of term of office of State registrar. State registrar to receive annual salary of \$1800. State Board of Health to provide for such clerical and other assistants as may be necessary for purposes of this Act, who shall serve during the pleasure of the Board, and shall fix the compensation of persons thus employed within the amount appropriated therefore by the Legislature.

Custodian of capital shall provide for the Bureau of vital statistics in the State capitol at Atlanta, suitable offices which shall be properly equipped with fire proof vault and filing cases for the permanent and safe preservation of all official records made and returned under this Act.

**Sec. 3** For the purposes of this Act, the State shall be divided into registration districts, as follows:

Each city, each incorporated town and each militia district, and that portion of any militia district outside of the cities and incorporated towns therein shall constitute a separate and distinct registration district.

**Sec. 4.** In cities, the city clerk shall be the local registrar, and in the incorporated towns the town clerk shall be the local registrar, and in the militia districts, the justices of the peace and notary public and ex-officio justices of the peace shall be the local registrars, and for that portion of militia districts outside of the cities and incorporated towns, therein, the justices of the peace and notary public and ex-officio justices of the peace shall be the local registrars under the terms of this Act.

No justice of the peace or ex-officio J. P. in any district, or if both absent, in that even the J. P. or ex-officio J. P. of adjoining district may perform duties of local registrar for such district, and each registrar, in such cases, shall note on each certificate, over his signature, the date of filing, and shall forward all certificates to the local

registrar of the district within ten days, and in all cases before the 3rd day of the following month, and if there be no local registrar for said district, shall be forwarded to the local registrar of the militia district in which the county site is situated, who shall make all reports for said district to the State registrar, and shall perform other like duties of the local registrar for such district.

Any local registrar, who in the judgment of the State Board of Health, fails or neglects to discharge efficiently the duties of his office as set forth in this Act, or to make prompt or complete returns of births or deaths as required thereby, shall be forthwith removed by the State Board of Health, and such other penalties may be imposed as are provided under Sec. 12 of this Act.

**Sec. 5.** The body of any person whose death occurs in this State, or which shall be found herein, shall not be interred, etc., unless proper certificate issued, etc.

**Sec. 6.** Stillborn child to be registered twice. Exceptions. Cause of death. Certificate of death to contain what. Authentication of certificate. Unsatisfactory certificate.

**Sec. 8.** Death without medical attendance, duties in cases of.

**Sec. 9.** Procedure where death occurs.

Caskets, record of.

Notice of the law.

**Sec. 10** Burial or removal permit.

**Sec. 11.** Interments.

**Sec. 12.** Births.

**Sec. 13.** Certificate of births to be filed. Report of birth and information to be furnished.

**Sec. 14.** Certificate of birth to contain what.

**Sec. 15.** Physicians, midwives and undertakers must register.

**Sec. 17.** The State Registrar shall prepare, print and supply to all registrars all blanks and forms used in registering, etc., and shall prepare and issue such detailed instructions to procure uniform observance of its provisions, etc.; and no other blanks shall be used than those supplied by the State registrar. General instructions. Filing and index. Certificates as evidence, etc.

**Sec. 18.** Local registrars to supply blank form to persons requiring them. General instruction.

**Sec. 19.** Each local registrar to be paid 25 cts. for each birth and death certificate. To be paid out of County Treasurer upon certificate of State Registrar.

**Sec. 20.** Certified copies to be furnished.

**Sec. 21.** Violations of the law, and penalties therefor.

**Sec. 22.** Local registrar charged with strict enforcement of this Act, under supervision of State Registrar, and shall make report of violations, etc.

State Registrar charged with thorough and efficient execution of the provisions of this Act, and is hereby granted supervisory powers over local registrars, etc., to the end that all its requirements shall be uniformly complied with.

**Sec. 23.** Repealing clause.

### **CHOLECYSTITIS PAPILLOMATOSA MALIGNUM.**

**T. P. Waring, M.D., Savannah, Ga.**

This short paper deals with a condition of considerable variety in an organ subject to much and so varied diseased conditions as the gall bladder. From statistics compiled by MacCarthy in the Mayo Clinic in 1910 of the 657 cholecystectomies, there was only one of catarrhal papilloma and none of malignant papilloma, and I have not been able to find in a limited review of the literature much written of this condition. Carcinomata of the gall bladder being a disease resulting from chronic cholecystitis of some other type but rarely from papillomata.

The history of the case is as follows: A woman, 42 years of age and native of Tattall Co. Her previous history is significant. She had malaria 1 year ago, jaundice at the age of 13. She had been married 20 years, has borne 4 children, had 6 miscarriages. Her parents are alive and carcinomata is not known in her family.

The point of significance in her present history is two attacks of puerperal insanity, one attack after an abortion 21 years ago and 2 year later after a normal birth. These attacks were probably caused by an infection of the uterus and the same infection caused a cholecystitis; she had no trouble with subsequent pregnancies.

The history of the present disease goes back 3 years. Pain in the right hypochondrium and a feeling as if she wanted to press

the side when she walked any distance. Although not a strong woman she enjoyed comparatively good health until three weeks before admission into the Hospital. At this time she felt a lump in the right side. This was followed a few days later by pain in the head and side. The pain was not severe; there was no fever, no nausea or vomiting, but a constant feeling of indigestion.

On admission, examination showed a woman not very well nourished, a little pale, skin muddy, but no jaundice. Blood contained 4,000,000 red and 8000 white cells. Seventy per cent. hemoglobin, urine normal, heart normal; blood pressure 120 systolic, 70 diastolic. She was constipated, stools good color. A distinct globular mass could be felt in the right hypochondrium, a little tender on pressure, but otherwise causing little discomfort.

On opening the abdomen a large gall bladder presented; color rather dark and glistening; not very thick walls, several masses could be felt in the gall bladder and two lumps the size of one cell of a peanut at the cystic duct opening. A cholecystectomy was decided upon and easily accomplished except with the removal of the attachments at the cystic duct. This was quite difficult and had to be ligated at the junction of the common duct. The reason of this was disclosed after the gall bladder was removed, because the two lumps thought to be stones proved to be enlarged glands.

### **MORPHOLOGY.**

**Gross specimen:** Thick walled gall bladder, measuring 10Cm. long and 11Cm. in circumference at the largest point. Contains small amount ofropy bile, fine sand, and three stones, 2.5 Mm. in diameter, all of which were free in the gall bladder. The walls of the gall bladder are much thickened, averaging about three Mm. The mucous membrane of the fundus is largely replaced by sessile and pedunculated papillomata covering an area of 5 x 3 Mm., their height varying from 2-3 Mm. to 1 Cm. At the junction of the body of the gall bladder and cystic duct there is an irregular ulcer 2 Mm. in diameter and radiating from this are bands of scar tissue. On the outside of the cystic duct, which is angulated around it, is a hard gland 1.5 Mm. in diameter. On gross section this gland cut smoothly, is firm and solid, and has a greyish yellow mottled appearance.



**Microscopic:** Section through papilloma show large discrete villi covered by single layer of large cylinder cells, with well marked elongated nuclei, situated near the middle of the cell.

**Ulcer:** Base covered with necrotic tissue, and there is a round cell infiltration of the adjacent tissue. The gall bladder wall is replaced by fibrous tissue.

**Gland:** Section shows typical lymphoid tissue, interspersed with fibrous and papillomatous tissues, the latter making up the larger part of the gland. The papillomatous villi are similar to those found in the gall bladder, except that the cells are arranged with less regularity, and are in several layers, instead of a single layer—evidence of rapid proliferation. The nuclei are irregular in size, and round rather than elongated as in the gall bladder.

The patient began to drain bile on the 5th day but had no further trouble. She left the hospital after 4 weeks with a biliary sinus. Three months later she wrote me that the sinus was persistent, but the stools were light brown and I had hopes that the sinus would close, which it did a few weeks later with disastrous results. She became deeply jaundiced and very sick. She then returned to the Hospital and I re-established her fistula. The jaundice had nearly cleared in two weeks, at which time I decided to try to establish an opening between the Hepatic duct and the Duodenum, and close the fistula.

This was successfully done in the following manner. The incision was begun below the opening of the sinus and extended for about 6 inches; the abdomen opened and adhesions broken up, the common duct and duodenum exposed. The end in view being to open the duct or duodenum and pass a catheter up into the hepatic duct. On account of the adhesions and the time it would take in a woman very weak from an anesthesia caused by a biliary fistula of 4 months standing, this was abandoned and a quicker and easier remedy presented itself.

The sinus was opened and dissected out to one inch below the edge of the liver. One and a half inches of a No. 15 French soft rubber catheter was then inserted through

the sinus into the hepatic duct, an opening was then made at the peak of the duodenum, and a 1½ inch of the other end inserted. The duodenum was then attached to the walls of the sinus by two layers of cat-gut suture and reinforcements of linen. The suspensory ligament of the liver was brought over and tacked to the side of the anastomosis. The Gastro-Hepatic omentum was then plastered over the union and sutured and finally the greater omentum brought up, carefully plastered over the whole and attached. The wound was closed leaving only a small protected gauze drain at the sight of the anastomosis. There was no leakage. On the third day the patient had a brown stool; on the 6th day she had quite a large hemorrhage from the abdominal wound which was controlled by packing and horse serum injection. She vomited some each day for 10 days always with bile but subsequently not at all. An X-Ray picture taken four weeks later showed the tube had passed. She has continued to gain flesh and strength and up to the present time, 3 months subsequent to the 2nd operation she does not show return of the malignancy and the new duct remains patulous.

This case presents several interesting features.

1st—The history of two attacks of puerperal insanity indicating a causative factor for a chronic cholecystitis.

2nd—A large papillomatous gall bladder taking on carcinomatous growth and extension of the papilloma to the lymph glands about the cystic duct.

3rd—The demonstrated possibility of making a quick and effective anastomosis of a biliary sinus and the duodenum in cases of obstruction jaundice when the gall bladder had been removed.

Cases have been reported of reconstructive work on the common duct. Dr. John F. Erdmann in the March Annals of Surgery presents two cases where he had built a duct out of cicatricial tissue uniting the hepatic duct with the common duct by a catheter and sewing over making a new duct.

I am indebted to Dr. I. W. McDowell and Dr. C. Howard for the pathological work done on the specimens removed.

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OF THE

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## VOLUNTEER MEDICAL CORPS OF THE UNITED STATES.

Authorized by the Council of National Defense Approved by the President of the United States.

**INFORMATION**

### 1. What is the Volunteer Medical Service Corps?

The Volunteer Medical Corps is an organization which provides means for obtaining quickly men and women for any military or civil medical service required in the war emergency. It furnishes recommendations and necessary credentials to assure the best medical service, both military and civil.

### 2. How should application for membership be made?

Upon request to the Volunteer Medical Service Corps, Council of National Defense, Washington, D. C., application blanks and circulars of information will be sent. When received, the application form should be filled out completely, in accordance with instructions contained in the circular of information. The application should then be mailed to the Volunteer Medical Service Corps, Council of National Defense, Washington, D. C.

### 3. What is to be gained by the creation of this organization?

Placing on record all medical men and women in the United States; aiding Army, Navy, Public Health Service, Provost Marshal General's Office and the American Red Cross in supplying war medical needs; providing the best civilian medical service possible; giving recognition to all who record themselves either in Army, Navy, Public Health Service, Provost Marshal General's Office, Red Cross activities or civilian service.

### 4. What is meant by classification?

It is the record of information furnished by the individual physician so that when the need arises, he may be requested to perform service that will be mutually advantageous to the individual and the service to which he may be assigned.

### 5. Who are eligible?

Every legally qualified physician holding the degree of Doctor of Medicine from a legally chartered medical school with reference to age or physical disability is eligible for membership in the Volunteer Medical Service Corps provided he or she is not already commissioned in the Government service.

### 6. How is eligibility to the Corps determined?

Upon information obtained from application blanks, three personal references and the Executive Committee of the state in which the applicant resides. Based upon the information thus secured, the Central Governing Board will finally pass upon applications.

### 7. Does membership in the Corps carry with it rank and pay?

**This Corps is not authorized to bestow rank. Arrangements for compensation shall be made between a member requested to perform a specific duty and the agency requesting service. The matter of compensation and place of service whether with or without rank, must be determined at the time said request is made. When a member of the Corps accepts service in the Medical Reserve Corps of the Army, the Naval Reserve Corps, the United States Public Health Service, the American Red Cross or any governmental department, he or she will be accorded the rank and pay incident to the service in the department in which he or she has enrolled.**

8. Will any member of the Corps be ordered to active duty?

**No member will be ORDERED to render any service.** Requests to perform specific duties according to qualifications and availability under the classification of the Volunteer Medical Service Corps may be made from time to time as emergencies arise.

9. What will be the probable character of service member will be requested to render?

- (a) Medical Reserve Corps.
- (b) Naval Reserve Corps.
- (c) United States Public Health Service.
- (d) Local and medical advisory boards.
- (e) State and local health departments.
- (f) Medical Schools and Hospitals.
- (g) Industrial plants.
- (h) Civil communities.

Caring for civil communities, stripped of medical attention. Caring for practices of physicians in military service. Acclamation of registrants, rejected for physical unfitness. Services to needy families and dependents of enlisted men.

- (i) Miscellaneous service.

10. If members of the Corps are recommended for military or naval service, in what order will they be recommended.

(a) Physicians under 55 years of age without dependents and without physical disabilities which are disqualifying will first be recommended. Following this group, physicians under fifty-five

years of age without obvious physical disabilities which are disqualifying and with not more than one dependent in addition to self (Class I of the Volunteer Medical Service Corps) will be among the first to be recommended for actual war service. Any physician under fifty-five years of age who is without an obvious physical disability which is disqualifying and whose dependents have an income sufficient for the support of dependents other than that derived from the practice of his profession, may be recommended to enroll in the Medical Reserve Corps of the Army, the Naval Reserve Force or the United States Public Health Service when in the opinion of the respective Surgeons General his services are needed.

(b) Physicians under fifty-five years of age without obvious physical disabilities which are disqualifying and with not more than three dependents in addition to self (Class II of the Volunteer Medical Service Corps) will be the next group to be recommended to apply for active military or naval service.

(c) The next group recommended to enroll for active duty with the Army, Navy or Public Health Service, (Class III) will be physicians under fifty years of age who are without obvious physical disabilities which are disqualifying and with more than three dependents in addition to self.

11. What are the exceptions in these groups?

The exceptions in the above groups of physicians are as follows:

- (a) Those essential to communities.
- (b) Those essential to medical schools and hospitals.
- (c) Those essential to health departments.
- (d) Those essential to industries.
- (e) Those essential to local and medical advisory boards.

12. How will exceptions to these groups be determined?

- (a) **Essential to Communities.**

Essential community need will be determined by the Central Governing Board on recommendation of representatives of the Central Governing Board



appointed by the Board to make a survey of local conditions.

(b) **Essential to institutions.**

Essential institutional need will be established after conference between representatives of the Central Governing Board of the Volunteer Medical Service Corps and representatives appointed by the governing bodies of the institutions concerned.

(c) **Essential to health departments.**

Essential health department need will be determined after conference between representatives of the Central Governing Board, Volunteer Medical Service Corps and representatives of health departments.

(d) **Essential to industries.**

Essential industrial need will be determined after conference between representatives of the Central Governing Board, Volunteer Medical Service Corps and accredited representatives of industries involved.

(e) **Essential to local and medical advisory boards.**

Essential local and medical advisory board needs will be determined after conference between representatives of the Central Governing Board, Volunteer Medical Service Corps and representatives of the Provost Marshal General's Office.

13. When will physicians who are not classified for actual military or naval service be requested to perform service?

When the emergency arises the following may be requested to perform duties in accordance with their qualifications and expressed merits as indicated by the information contained on their application blanks:

- (a) Physicians over fifty-five years of age.
  - (b) Physicians with obvious physical disabilities which are disqualifying.
  - (c) Those rejected for all government service because of physical disability.
14. What are some of the duties that this last group of physicians ineligible for active military service may be requested to perform?

(a) Deducting those members of the medical profession who will eventually be in active military, naval or public health service, fully seventy-five per cent. of the remainder will be encouraged to continue at their home duties.

(b) Some of these may be called upon to supplement their private practices by performing part time service to meet community needs hitherto performed by men called to active duty.

(c) Twenty-five per cent. of those not actually engaged in war service (possibly 20,000 in number) who are now engaged in home duties but who have agreed to do work of any kind, anywhere, upon request of the Central Board, will as the emergency arises be recommended for duty in the following places.

- 1. Local and medical advisory boards.
- 2. Medical Schools and Hospitals.
- 3. Industrial plants.
- 4. Health Departments.
- 5. Communities lacking medical service.

15. How does enrollment in this Corps differ from actual conscription?

The Volunteer Medical Service Corps is exactly what its name indicates. It is a gentleman's agreement on the part of the civilian doctors of the United States who have not yet been commissioned in the Army or Navy or enrolled in the Public Health Service, or in the service of the Provost Marshal General, and a representative board consisting of government officials associated with lay members of the profession in which the civilian physicians agree to offer their services to the Government if requested to do so by the Central Governing Board.

16. In what way can this Corps aid the Government?

By recording all physicians who are not yet in service and classifying them so as to utilize the talents and facilities of individuals to the best advantage and inflict as little hardship on the individual as possible, in accordance with the letter from the President of the United States authorizing the Corps—"to supply the needs of the Army, Navy and Public

Health Service \* \* \* aiding in the important work of the Provost Marshal General's Office and Red Cross \* \* \* and the problems of the health of the civilian communities of the United States." It provides a method by which every physician not in uniform will be entitled to wear an insignia which indicates his willingness to serve his Government. It furnishes a method by which the medical needs of the nation may be provided for through a representative board of physicians who know the needs of the Army, Navy, Public Health Service, Red Cross and civil communities.

17. To what extent must provision be made for essential civilian and industrial medical needs?

A large percentage of the physicians of the country will be required to care for their respective home communities and to meet civilian health needs. This percentage of necessity will be expected to maintain their home status and continue their professional work.

18. Will enrollment in the Volunteer Medical Service Corps excuse a physician in the draft age from registration under the Selective Service Law or from being classified therein?

Positively not.

19. Why then enroll in the Volunteer Medical Service Corps if it does not supplant the draft?

(a) Under the Selective Service Law individuals in the draft age are registered and inducted into the service as privates. The Volunteer Medical Service Corps enrolls and classifies individuals as prospective commissioned officers and will when requested assist

in establishing the individual's status when he requests transfer from the enlisted forces to the commissioned branches of the service.

(b) Enrollment in the Volunteer Medical Service Corps definitely registers the physician as a patriot and provides definite governmental recognition of his willingness to serve.

20. Why should every physician in the United States enroll in the Volunteer Medical Service Corps?

(a) The unsurpassed record of volunteer enrollment for actual service on the part of the medical profession must be maintained.

(b) The Army and the Navy must not be hampered for a moment for lack of doctors to care for the sick and wounded boys fighting our battle at the front.

(c) The public health must be conserved.

(d) The medical needs of the Provost Marshal General must be adequately met.

(e) The great industries furnishing materials of war employing thousands of patriotic workers, must have medical service.

(f) The home folks, the old and the young wearily waiting over here, must have doctors.

(g) Recording, classifying, and careful distribution and full utilization of our entire profession of medicine will enable us to instantly supply all demands, and our utmost resources will then be available to aid in establishing a permanent peace that will forever make this world a safe place in which women and children may live.

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# THE JOURNAL

OF THE

## Medical Association of Georgia



PUBLISHED MONTHLY UNDER DIRECTION OF THE COUNCIL

Editorial and Business Office, Atlanta, Ga.

Subscription Price, \$1.00

Application made for entry at the Post Office at Atlanta, Ga., under the Act of March 3, 1879.

VOL. VIII

ATLANTA, GA., OCTOBER, 1918

No. 6

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### GOITER, AND RESULTS IN SEVENTY OPERATED CASES.

By W. S. Goldsmith, M.D., Atlanta, Ga.

Since 1911 I have examined 195 cases of goitre, or enlargements of the thyroid commonly spoken of as goitre. Of this number 70 were operated on with one death.

There were eight males and sixty-two females. The youngest case was 18 years old and the oldest 78. As to race, there were 54 white patients and 16 negroes.

Eight ligations of the thyroid vessels were done; six under local anaesthesia and two under ether.

In one case, female, age 38, three operations were made. In 1914 nearly all of the right lobe was excised; in 1916, a large smooth wall cyst was enucleated from the lower pole of the left lobe, and in 1917 a cystic colloid goitre of practically all the left lobe was excised. This woman was operated upon in July, 1917, and she is now perfectly well, but she has the least quantity of normal thyroid that it has been my privilege to observe.

This case illustrates a point of practical importance in thyroid surgery in that individuals showing a tendency to colloid degeneration can survive and thrive on a min-

imum of thyroid tissue, and it also leads us to the position of using more radical steps in excising the maximum amount of tissue and thereby preventing the occasional condition of the neck, indicating that the growth was not thoroughly removed.

In this series of operated cases, while not large enough to excite particular surgical admiration, it is instructive and interesting for a number of reasons.

First. The large discrepancy between the number of cases examined, 195, and the number actually coming to operation by the author. In at least 30 per cent of the cases not operated, were young women from thirteen to twenty years of age.

It is not an uncommon circumstance in the practice of every member of this Association to have mothers consult you with reference to the enlargements of the neck of their young daughters. Those are usually girls going through the critical and trying periods of menstruation, and a suggestion of operation upon the thyroid in such individuals would be absurd. These cases, as a rule, have no symptoms indicating either a hyper or hypothyroidism, and it is my observation that these young women are cured as soon as other functional disturbances are adjusted and relieved.

In about 20 per cent there were cases of such extreme toxic type that an operation for the time was not advised but emphasis was placed upon the necessity of a rational medical treatment and a return of more normal equilibrium established. These women, after proper rest and treatment, would be benefited by ligation and await developments before a radical excision of any hyperplasia should be contemplated.

The death of a patient of this type, and the only death recorded, was a lesson to me. The patient was a male, age 40, with a large vascular goitre, impending exophthalmos, markedly toxic, and insisted upon the operation. After several days in bed and some improvements noted, I yielded to his opportunities and operated. His death upon the same day without recovering consciousness and with every manifestation of the most extreme shock, impressed me with the gravity of provoking an explosive hyperthyroidism and the absolutely uncontrollable shock following such an operation.

The remaining cases stood in need of the operation but for reasons satisfactory to them, they are still unoperated or sought relief elsewhere.

I do not practice a pre-operative follow-up system and when a patient leaves my office, no pursuit of them is made.

In appropriate cases the ligation of the superior thyroid artery and vein can easily be accomplished under the effects of local anaesthesia. In some cases I also infiltrate the line across the neck with novocaine or cocaine and the operation can be done almost entirely by this degree of anaesthesia in large pendulous goitres. The oldest case in this series, male of 78 years, was operated in this manner.

It is an interesting fact, noted locally as well as in the large clinics of the north and west, that the large cystic colloid goitre is on the decrease. I really believe that almost all the large goitre of this type have been removed. The very general operating upon goitre in nearly every community, and the study of the disease and the familiarity of the technique of the operation, is certainly a plausible theory for this marked falling off of this type in our clinics.

On the other hand, so much publicity is now given the operation that patients rather enjoy the distinction in quite the same manner as with the somewhat older

but still fashionable abdominal compatriot.

The excision of the small goitres is a clearly justifiable procedure and it is an injustice to the patient to advise against relief of conditions which are giving rise to grave constitutional disturbances as well as to the disfigurement of the neck due to the tumor, which is difficult of obscuring.

In my early cases the type of disease was almost exclusively that of cystic colloid degeneration. These were the large goitres in women of middle life and were without symptoms, as a rule. The operation was performed almost always as a cosmetic step. Occasionally with this type there would occur a substernal hypertrophy and symptoms would be present referable to respiratory difficulty. These cases sometimes present pictures of great distress due to pressure upon both superficial and deep vessels with a consequent secondary effect upon the heart.

The X-ray is an aid in this particular type as we get from it information as to the depth of the protusion as well as to possible effect upon the sternum and clavicle. In 26 cases of cystic colloid type there were no unpleasant after-effects, either immediate or remote. In 18 of simple adenoma of the non-toxic type there were two cases of infection, developing from the catgut with which I used great care in trying to cover the raw surfaces of the portion of the gland which was left. In one case of adenoma of small size a slight secondary hemorrhage occurred. It is of peculiar interest in this connection, how few secondary hemorrhages take place and it is to the credit of all operators how few infections occur. It is clear that the careful technique involved in thyroid surgery is responsible for both of these favorable circumstances. Certainly no other surgical exploration is made carrying with it the feeling of serious concern as to preservation of voice, the function of the neck muscles, the prompt aseptic wound repair and the restoration of the superficial tissues looking to the perfection of cosmetic detail.

In five cases of smooth wall cyst their encirculation was very simple and in two or three cases almost total aphasia was present, due to pressure upon the recurrent laryngeal nerve. Fortunately the voice was restored, although in one case the restoration was very slow and it seemed evident that the pressure had produced an irreparable degeneration of the nerve.

There is no claim set forth in the author's technique touching upon the protection of the nerves to trauma, but it is a source of gratification that I have never had a loss of voice or an appreciable degree of discomfort along this line. The only explanation of this circumstance is that the incision is made just as short as possible with a compensating wide exposure along the upper and lower area of exposed wound surface. Lateral traction is limited and the manipulation of the lobe along its lateral surface is as gentle as possible.

Careful attention to the minute details attending the closure of the wound, with special reference to the accurate coaptation of the platysma muscle, which is the covering of the neck of supreme importance. Failure of closure, infection or any other cause, delaying prompt repair means a progressively widening scar and an added disfiguration to a dissatisfied woman.

#### DISCUSSION OF DR. GOLDSMITH'S PAPER.

**Dr. E. G. Jones (Atlanta).**—I do not think Dr. Goldsmith's paper ought to pass without some discussion. We all know that one changes his ideas very frequently from the ideas which he has accumulated from reading statements in various text-books over and over again. I did not catch exactly the proportion of males to females in Dr. Goldsmith's series, but it is commonly stated that males are affected about one in five. My own series of cases which have been studied with the idea of collecting information respecting some thirty odd points, gives us a percentage of only 7.2 males, and while I have not thoroughly studied the question, nevertheless I am impressed that where accurate figures have been compiled on this score, the percentage of twenty on the part of males is too high. Certainly it is in the cases which I have studied, numbering now some four hundred. I have found a percentage of only 5.2 colored people. I do not think the figures represent the sex incidence in our part of the country. I do think the figures represent the sex incidence, but not the race incidence, because nearly all of our cases are private cases and consequently not so many colored.

We cannot fail to be impressed with the relative scarcity of thyroid trouble in our part of the country as compared with the

Great Lakes region. I am impressed with the fact that one would see per thousand on the streets of Chicago or Detroit or Milwaukee ten times as many thyroid enlargements as on the streets of Savannah or Memphis or Nashville. Of course, that is more or less an inaccurate statement.

In regard to the removal of an adequate proportion of the thyroid gland, I have never followed the original plan of resecting a single lobe, but I have constantly removed all the thyroid tissues that we dared, and we have never, with one exception, seen a person who suffered subsequently from too little thyroid secretion; I do not think anyone suffers from too little thyroid secretion, but probably also from other circumstances, so that unless the situation exists—which indeed may exist after this manner, namely, that one is confronted with an enlargement of considerable size, and at the end of the removal of one lobe the condition of the patient may be such that a prolongation of the operation would be unwise, and the taking away of the opposite lobe may be impossible. These are the people who have come back for a second operation, but following the plan we have inaugurated we have never in but one single instance had to reoperate on any individual. This individual was reoperated simply because in our inexperience we did not know how much thyroid tissue to remove and were afraid we would remove too much.

With reference to the proportion of the different classes, our own experience shows that about 32 per cent are in the toxic group in this part of the country—the exophthalmic type. With reference to this part of the country, the exophthalmic goitre—whether it be accompanied by exophthalmos or not—one cannot fail to be impressed by this fact, that the severity is by no means in accord with the size of the thyroid. The patient is apt to think, and the doctor may agree with her, that the severity of the situation depends upon the size of the thyroid, and if she can fall upon a time when the thyroid is decreasing in size, she thinks she is improving. But we do see individuals with a pulse of 120 to 130 without evident thyroid enlargement, but who will respond in the usual way to the resection of the proper portion. So I believe when one has in mind the difficulties of the operation, the extensive hemorrhage, the large amount of tissue



to manage during the operation, it makes no difference whether it is a big or a little thyroid. As with fibroid of the uterus, it is usually easier to operate on a big than a little one, except in this class—excluding those women who come for examination at about the time of puberty and therefore do not need any operative interference—at least I do not think they do—excluding these 57 per cent of our patients have had adenomata. Furthermore, with respect to these girls who have a little thyroid enlargement at puberty, and who are never, I suppose, in good practice, advised to submit to an operation—what is the fate of that girl? With reference to these cases which now number 400 and nearly all of which are women, some 40 per cent claim that they date their trouble which was traceable to the thyroid to that time. So it is decidedly a question as to what ought to be done with that girl. I do not know anybody who advises the removal of the thyroid under those circumstances, but it is certainly true in our own cases that they are more apt to give trouble later than if they had never had any thyroid enlargement.

Furthermore, there is a very general impression that there is rather a suggestive relation between pelvic disease in women and thyroid enlargement, and certainly there is some relation between the sex organs of the female and the thyroid. I think I proved a few years ago, and read a paper on the subject, that there was a significant relation between pelvic pathology and thyroid enlargement, but an analysis of this particular series of cases by no means supports such a view.

**Dr. W. S. Goldsmith, (Atlanta).**—I agree in the main with Dr. Jones, but in reference to these young girls of whom I spoke in my paper, the associated pelvic disease is entirely symptomatic. I could not afford to make any exploration of any young girl's abdomen or make a pelvic examination of a young girl fourteen to sixteen years old. In other words, while the pathology may be associated in a degree in an enlargement of the thyroid gland, still we have no means of confirming that by a diagnosis or exploration of the abdominal viscera. Therefore, it seems to me it would be much better—

as I have advised in a number of instances where these young women have consulted me—to send them back to school and let the medical man try to correct the menstrual irregularities and after three or four years these symptoms will materially disappear. The quantity of tissue to be removed has thrown much light on the situation and has certainly relieved us of a good deal of embarrassment in the matter of operating. The case which I mentioned where I operated three times, the first was on the left side, and the second was an enucleation, and therefore when the woman came back with a large left gland involved, she had without question colloid degeneration. This was practically removed entire except the upper pole. That was done nearly a year ago and two months ago she was in perfect health and there was practically no chance for a return of the goitre because there is nothing to work upon. So I agree with Dr. Jones that if you can remove sufficient tissue—especially when we see degeneration of the colloid—that the patient will live and thrive just as well with a small quantity as with a larger quantity of the gland.

#### ROENTGEN DIAGNOSIS IN EMPYEMA SIMULATING OTHER DISEASES.

**Dr. W. A. Cole, Savannah, Ga.**

Under proper therapy empyema, except in very young infants, responds as readily as almost any condition that the surgeon is called upon to treat. With improper treatment it hangs on almost indefinitely and is the source of endless worry to him who has the case in charge, to say nothing of what happens to the patient. Taking into consideration the above mentioned consequences of the condition, it is plainly seen how important is a correct diagnosis in this disease, much more important than in a number of other morbid conditions, especially in children but may be readily applied to adults also.

Following pneumonia the symptoms of empyema may show up without any intermission; or after the temperature has been about normal for several days it may rise suddenly or gradually with, in addition, other symptoms of increased thoracic dis-

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ease. Empyema following other infectious diseases as scarlet fever, usually shows signs of pulmonary disease in addition to those of the original condition. When it is apparently primary the onset is sudden with high temperature and with general and local symptoms resembling pneumonia. A roentgen examination is usually necessary to differentiate in the latter case. Some times, especially in older children empyema develops insidiously with slight fever, dyspnea and cachexia, leucocytosis with polymorphonuclear cells about seventy to eighty per cent. Aside from the one place mentioned above the roentgen ray is not usually needed in these acute cases, though it would help in almost all cases but when we come to the chronic cases there is not infrequently need for the use of every method of examination available in order that proper treatment may be instituted at the earliest possible moment.

The physical signs upon which most reliance is to be placed, according to Holt, are marked dullness or flatness, feeble breathing and displacement of the heart. He further states that empyema is most frequently confounded with unresolved pneumonia, in children, and that statement corresponds well with my own findings in a small series of cases and is the main reason for my bringing this short paper before you. However, before reporting these cases I might add that I have found empyema the sole lesion in several cases referred to me for a roentgen examination of the gastrointestinal tract and that upon evacuation of the pus from the plural sack the patients promptly regained their usual good health. Within the thoracic cavity one must also consider such rare conditions as a large pericardial effusion which is very difficult to differentiate from left sided empyema. Another rare disease that might confuse one is a large pulmonary abscess. In the latter condition the roentgen ray usually easily shows which disease one has to deal with, for in abscess one can usually note the fibrous tissue wall inside of which, easily noted with good stereoscopic plates, is a cavity partially filled with fluid which changes its level with change of patient's position; while in the usual case of empyema one notes that in the horizontal position the fluid is diffused over

the entire lung giving it a hazy appearance but when patient assumes the erect position the fluid settles to the base of the pleural cavity making it much more dense in that area, while the upper part of lung has become more nearly clear. In a sacculated empyema the fluid cannot be seen to move and here it requires the closest attention and best judgment of the roentgenologist to prevent him falling into error, however, if he considers carefully the history of the case, the physical signs, paying especial attention to percussion, and the localized increased density of the pleural cavity usually posteriorly, and in my experience most frequently near the angle of the scapula, he is not likely to go very far wrong. In my opinion the fluoroscope is essential in all cases of suspected fluid in the pleural cavity and should be used both horizontally and vertically, but it should not be relied upon exclusively for much valuable information may be gained by the detail which can be brought out only with plates. Then, too, if the roentgenologist is not present to direct the surgical measures the surgeon has a much better idea of just where he must incise if he has a good plate before him. As examples of a few conditions which empyema might simulate, the following cases may be cited, all of which are proven cases:

#### Case No. 1:

D. P., female, age 11. Past history has no bearing on the case. Taken five weeks ago with lobar pneumonia, passed through acute stage and had delayed resolution. Brought here from out of town because of great emaciation, anorexia, slight elevated temperature and steady retrograde progress. Careful physical examination by a good clinician; revealed an unresolved pneumonia and ruled out empyema. Roentgen examination showed unresolved pneumonia and a small sacculated empyema just in front of the angle of left scapula which proved at operation (resection of rib) to be about eight ounces of pus. Patient returned home in ten days much improved.

#### Case 2:

E. R., male, age 7. Six weeks previous to time I saw him he had lobar pneumonia which had delayed resolutions. Careful physical examination by a competent clinician gave signs of moderate consolidation

with a suspicion of fluid in pleural cavity. Six attempts at aspiration were negative. Roentgen examination revealed a sacculated empyema beginning about middle of scapula and extending downward about three inches. Resection of rib was done and about five ounces of thick pus that could not be drawn through a large needle, was removed.

Case 3:

Mrs. M., age 49. Stout woman who had one breast removed for carcinoma about three years previously. Referred for roentgen examination of gastro-intestinal track; examination shows metastatic carcinoma involving both lungs and a large amount of fluid in left pleural cavity which proved to be about five pints in quantity.

Case No. 4:

Mr. M., age 47. Five months previously had "the grippe" and has not been entirely well since then. About six weeks ago began losing weight rapidly, was obstinately constipated and complained of pains and tenderness in left hypochondrium. Referred for examination for possible carcinoma of transverse colon. Roentgen examination showed gastro-intestinal track normal but considerable fluid in right pleural cavity which was removed and patient rapidly regained his usual good health.

Case No. 5:

Mr. B., age 21. Pneumonia five weeks ago with delayed resolution. Referred for me to show what was thought to be a sacculated empyema but roentgen examination showed abscess in left base instead.

Case No. 6:

Mr. S., age 27. Six weeks ago had virulent, extensive staphylococcal infection of face and side of neck. Patient was in a most deplorable state but by the use of multiple openings, drainage and Dakin's solution he finally got his face well. He then developed a cough and his general health went down instead of up. Roentgen examination showed an abscess in right base and fluid in left pleural cavity.

Case No. 6:

Male, age 21. Had "grippe" eight weeks previously and not entirely well since then. Complains of pressure and pain in stomach after eating. Referred for examination of stomach for possible ulcer. Roentgen exami-

nation shows stomach and duodenum normal but fluid in right pleural cavity which was removed and patient recovered entirely from all of his symptoms.

My conclusions drawn from this small series of cases, together with some others that I have not seen fit to report, are that empyema is a disease of protean aspects; it is not infrequently encountered when least expected; that we should be constantly on the alert for it, especially in patients who give a history of fairly recent thoracic disease; that a negative physical examination, including repeated attempts at aspiration do not always exclude empyema and that a roentgen examination is often essential in clearing up the diagnosis.

**Major C. C. Harold, (Macon).**—Probably some of you know that we have been having at Camp Wheeler probably the largest number of pneumonias and empyemas that the country has even seen in the same space of time. This epidemic started when the troops came from the border. Up to that time we have had comparatively few pneumonias and practically no deaths. Within a few days after their return we had thirty cases of pneumonia, eight empyemas. The warm weather came on and things cleared up. Then the drafted men began to come in and the trouble spread like wild-fire when the weather got bad.

I am discussing this only from the standpoint of the empyemas and the methods used in the Base Hospital. They keep pretty close tab on all the cases of empyema. We have a very enthusiastic X-ray man who has the best of help at his disposal, so we are getting a wonderful collection of plates of empyemas. One of the men has struck the scheme of injecting these empyemas before they are operated with barium and he is getting very beautiful plates. Major L— is there and is quite interested in it and says he finds it a great help. As the pus is drawn out in the needle, the same amount of concentrated and sterile suspension of barium is injected. He then gets a very clear picture of the duct and finds the point where the duct comes close to the surface and then goes after it. He hopes he will have very good results. He has had to do a number of Eslander operations on the heart, but he hopes now he will get at the proper place



through the use of the X-ray and will have to do fewer radical operations in the future.

**Major E. E. Murphey, (Augusta).**—Every man who has been in a Base Hospital anywhere has been brought face to face with this kind of empyema. It impresses me as very timely that Dr. Cole should have brought this up. At Camp Gordon, at Wheeler, at Camp Lee and practically all the cantonments we have had this empyema problem. There has been more work done, more clinical material gathered in regard to pneumonia and empyema in the past twelve months than in any time perhaps in the past one hundred years. These results are not yet available for the profession at large. They are being collected as rapidly as the surgeon general's office can collect them and appearing in the Journal of the Association of Military Surgeons and a great deal of information can be obtained by anyone interested.

But in the main we have had the following experiences, in which most camps concur. We have had two types of empyema, one which follows lobar pneumonia and which is a diplococcus infection and is amenable to one line of treatment and the empyema which follows a bronchial inflammation, or measles, and which is a streptococcus infection. In certain camps they have had measles in which they have not had an enormous amount of streptococcus infection; in other camps measles has been followed almost entirely by a streptococcus empyema. The mortality in any given camp is dependent in the main on the type of infection which has been present. Those cases which were diplococcus empyema followed practically the course of empyema as we used to know it in civil life, that is, a pneumonia or pleurisy followed by a thick creamy pus in the pleural cavity which after the proper evacuation and treatment got well and returned to normal. But at Camp Gordon and at Lee and several other camps we have had measles followed by a pleurisy empyema which is due to a streptococcus about midway between the streptococcus hemolyticus and the streptococcus viridans. They run a temperature of 103 to 110; the pulse is 120 with rather slow respiration, but which develops

very rapidly. Following the notion that a streptococcus infection wherever it may have been was a virulent infection that should be drained as soon as possible. In most camps an operation was performed and free drainage established, but the mortality in those cases of streptococcus empyema was frightful. In some camps it was 80 per cent. So after a while it became evident that this streptococcus empyema was not a thing to be opened and drained as a diplococcus empyema and little by little there has been a modification of our previous notion with regard to this particular infection and now we find that where this infection is present the best way is to aspirate day after day until such a time as the pus becomes thick, and then make a drainage. So far as I am concerned I believe that aspiration followed by thorough resection is the ideal procedure. With regard to the diplococcus infection, they do better with free drainage.

But the essential thing in all these cases germane to the doctor's paper is this, that even with the most careful clinician a great deal of assistance can be brought by properly conducted Roentgen work. About 130 cases have passed through my hands since September and they have all gone to the X-ray room. Most are aspirated directly under the fluoroscope. The same thing is being done at Camp Wheeler and other camps and the assistance that can be given by the X-ray man to the clinician is of incalculable value. Not that the X-ray man should take the place of the careful clinician, but for checking up our findings his work is most invaluable.

**Dr. A. J. Mooney, (Statesboro).**—I am very much enlightened by the remarks of our President. I have three cases now of the description he has just discussed. At first this fluid came out clear. I did not resect, but I used a 2 per cent formalin solution with glycerin for injection and after injecting two or three times I began to have creamy pus and then I resected. In each instance the patients are doing fairly well.

## A NEW INCISION FOR THE SURGERY OF GALL BLADDER AND DUCTS.

Chas. Usher, M.D., Savannah, Ga.

In no branch of medicine or surgery that I know of, has there been more progress made than in the surgery of the gall bladder and ducts, in the past five years. There are many incisions for the operation of the gall bladder and ducts.

The Perthe's incision has many advantages, but cutting the muscles transversely is one drawback.

Beven's incision, or some modification of it, is the incision generally made.

The incision that I advocate is made in the following way: Take a line from the ensiform cartilage, come down even with the umbilicus but two inches to the right. It is not necessary to make it that long in every case. Go through the skin, fat and fascia, then split the rectus beginning in the middle one-half way up, and the other half down, retract the muscle to the right and cut the peritoneum at an angle of about 45 degrees or along near the borders of the ribs. This is Judd's modification of Bevan's incision except the way the peritoneum is cut. You may with advantage suture two layers of peritoneum before cutting.

The advantages are that the peritoneum is strong in this locality, in fact almost a muscle. Sutures don't tear out readily as sometimes occur when the peritoneum is cut straight up and down, you are not likely to cut the diaphragm, an accident that might happen when the peritoneum is cut straight up and down.

The incision is closed as any other gall bladder incision. The wound is a strong one because it is closed in different planes. I have been using this incision for 14 months.

I explained it to Dr. George R White and he has been using it for a year.

## TREATMENT OF LOBAR PNEUMONIA.

J. W. Palmer, M.D., Ailey, Ga.

In the treatment of lobar pneumonia there is but little to be done, therefore we should regard it as an acute, infectious, self-limited disease, for which there is no specific curative treatment, running a more or less typical course, ending by crisis anywhere from the 5th to the 10th day. That every case of pneumonia is a law unto itself so far as treatment goes, and the treatment should be modified according to age, sex, environments and personal characteristics. That certain symptoms in each case will call for special therapeutic measures. That the treatment must be one of expectancy, treating the symptoms as they arise, alleviating the pain, assisting nature, preventing complications and treating the patient and not the disease.

To relieve pulmonary congestion, excited heart, to reduce temperature, to restore circulatory equilibrium, to prevent heart from overwork, and to produce diaphoresis, giveaconite and veratrum together or separately every one to two hours until the pulse softens, the skin becomes moist and until the exciting and congestive stages have passed.

Don't give any more heart stimulants than necessary, only give them to keep up circulatory equilibrium. Remember that the heart does not need stimulation in every case of pneumonia, and that the secret of success in the treatment of pneumonia is to know just when to, how much and when not to stimulate the heart. You can always tell when to stimulate the heart by taking patient's blood pressure, also when you find the first sound of the heart begins to weaken, and cyanosis begins.

In stimulating the heart we must bear in mind that heart failure in pneumonia is due to three things, sepsis, toxemia and pulmonary obstructions with strain upon the right heart. The following are the best heart stimulants: Strvehnia, digitalis, camphor, adrenalin (suprarenal gland), sparteine sulphate; and caffeine and benzoate of soda. Digitalis is the most important and should by all means be given just as soon as the first sound of the heart begins to weaken, or the pulse rapid or feeble, because it comes to the rescue of the right ventricle in its efforts to drive blood into the partially consolidated lung. If the heart does not pick up, add strychnia and adreneline. At or near crisis in pneumonia with weak heart always give stimulants subcutaneously. One of the most reliable, active, certain and prompt heart stimulants is camphor. Never fail to use it when you want quick results

and especially should it be used if there is any restlessness or delirium. It is given in one-half to two grain doses in sterilized olive oil subcutaneously every three to four hours. Sparteine sulphat in one-half to one grain doses, or eaffeine and benzoate of soda in doses of 5 to 10 grains are good. It is well to substitute them or alternate them with the other stimulants when they have to be given for sometime, especially strychnine, as its long continuance produces irritability and digitalis may be accumulative. Whiskey is no good as a heart stimulant, and is never indicated except in drunkards. Nitroglycerine should never be used in pneumonia except in the advanced stages when there is an engorgement of the right heart with shallow, hurried breathing with intense dyspnoea and cyanosis.

An important etiological factor in the mortality of pneumonia is toxemia. This toxemia can be overcome to a great extent and prevented by administering sodium ehloride. There is a rapid depletion of saline elements in the blood of a pneumonia patient, and it is this important agent which holds up the protective functions of the body. Therefore, it is very essential that we should administer saline elements from the beginning of the disease.

Absorption of poisonous products from the intestinal tract or toxemia is a very important factor in producing intestinal paretis and is also responsible to a great extent for a weak heart. Taking these things into consideration it is very necessary in the beginning of pneumonia to clean out the alimentary tract and keep it clean and sweet through the entire course of the disease. This is best done by giving initial dose of calomel in the beginning and thereafter securing daily movements of the bowels by salines, changing occasionally to castor oil or enemas. Give five grains each of zine, soda and calcium sulpho-carbolates every four hours, which will also prevent putrefaction, formation of gas and ward off that dreaded complication, intestinal paresis.

Give morphine or codeine for pain or cough subcutaneously. The promiscuous and habitual prescribing of morphine or opiates in pneumonia is very dangerous, as it locks up secretions, masks the symptoms, prevents nature from throwing off toxine,

and near the crisis will bring on intestinal paresis. Always give it separate when indicated by cough, pain and insomnia and then subcutaneously. Venesection usually does more harm than good. However, it may be used in the early stages on the robust young adult with strong tense pulse, excited circulation and for the relief of dyspnoea and severe pain, but aconite is preferable. Again, it may be used in the latter stages with engorgement of the right heart, but nitroglycerine is to be preferred.

In regard to the antipneumococcus serum, will say I have had no experience with it. I am confident that the time is near when we will use serum in the treatment of pneumonia as freely and successfully as we do in diphtheria. One-third cases of pneumonia is due to Type 1 Pneumococci, according to Cole for which there is a type serum, but in the other two-thirds cases there is at present no specific serum treatment. There is a type serum being used very successfully at Camp Grant, Ill., said to be made at the University of Chicago, but this serum has not yet been reported on by the Surgeon General. Dr. E. C. Rosenow of Rochester, Minn., has written in the American Medical Association Journal a very able paper on "Partially Autolyzed Pneumococci in the treatment of Pneumonia" which is valuable information on this subject. For pulmonic antiseptic give carbonate of ereosote.

To facilitate expectoration give ammonium ehloride. The diet should be fluid, highly concentrated and easily assimilated.

Sufficient ventilation without exposure of patient to draft is an absolute necessity. Always have plenty of fresh air in room, but warm just so temperature of room is kept near 70 degrees F.

Blistering is only serviceable in cases of delayed resolution.

Use counter irritation in congestive stage. Dry and wet cupping and also enveloping chest in mustard paste when any edema of the lungs are very beneficial. Make it convenient to spend as much time as possible with your patient at, during or near crisis. Have nurse instructed just what to do when crisis comes on. This is the time when you may save the patient's life, so watch him closely and stay with him.

In conclusion let me say and emphasize



that opiates must not be promiscuously given but only for special symptoms and then cautiously given. Watch the heart and know just when to and how much to stimulate and never risk stimulation by mouth. It requires knowledge and skill to keep from blundering at this point.

That rapid depletion of saline elements in the blood of pneumonia patients demands administration of sodium chloride through the course of the disease, because it is this important agent that holds up the protective functions of the body. That the alimentary canal must be kept clean and sweet through the course of the disease by giving intestinal antiseptic. Plenty of fresh air and proper dieting. Treat your patient and not the disease.

#### Discussion of Dr. Palmer's Paper.

**Dr. T. J. McArthur, (Cordele).**—As the essayist stated the subject of pneumonia is very interesting at this time. We general practitioners have had to deal with it considerably this past season. I have approved most heartily of what the essayist has said for the most part, but simply want to emphasize one thing and criticize a little another. I think a very important thing in the handling and treating of a case of pneumonia is not to do something to harm your patient, and that is a very easy thing to do. I am sure that a great many cases of pneumonia get well in spite of the treatment. Meddlesome treatment in the case of pneumonia is a very dangerous thing, and we had better do nothing than do something that will hurt our patient. I simply want to emphasize that. I am sure that in many instances too many drugs are used in treating these cases. As the doctor stated we can easily over-stimulate. We can use stimulants when they are not only not needed, but may be hurtful.

Now the thing that I want to justly criticize is about the use of aconite and veratrum. I think it is just as important to use these drugs as to use stimulants in other cases, but yet the essayist did not caution us about the use of aconite and veratrum. These are powerful drugs, and if not used cautiously they are as liable to do damage as are the stimulants when they are not needed. While aconite and veratrum in properly selected cases of pneumonia are good things

to use we must be very careful in selecting the cases where these drugs are to be used.

**Dr. E. C. Thrash, (Atlanta).** We are too much inclined to think in the treatment of pneumonia that we simply have a disease of the lung. Pneumonia is a systemic bacterium primarily and the infiltration of the lungs is a secondary process. In other words you may have the bacterium before the lung becomes involved. You have not surely a weak right heart under normal conditions—it has not much work to do. With the density of the structure of this right wall, a weakening and a stretching to a degree that the opening of the right heart will be relatively insufficient and ultimately it will be taxed to a degree that it cannot carry out its work and three out of four of your patients will probably die.

So far as drugs are concerned, we have had nothing that will cure pneumonia until recently. But for the ordinary treatment of pneumonia the thing to do is to take care of the right heart and the pneumonia will take care of itself. How that is to be done must be worked out in each individual case, but in my opinion more people have been killed by treatment than have died of pneumonia itself. In other words, I believe a great percentage of pneumonia would get well if we left it alone and do get well if we do not give them stimulants that overtax the patients strength. I often think what would be my condition starting at normal and taking all the drugs I have given these patients. I believe I would be sick myself. Veratrum is splendid in the treatment of pneumonia if given properly and so is digitalis—each one dangerous when improperly administered.

The work that has developed since the European war began has been most excellent in the handling of pneumonia, because it has been a disease that has taxed the medical men in the army more than any other. Four types have been definitely worked out and already a serum from No. 1 has been developed and is practically a specific in treating this type. I have had experience in quite a number of cases with this No. 1 and in every instance where I would get neutralization with the No. 1 the patient would respond. But, Gentlemen, the serum that

is sold upon the market by the Biological Manufacturers is absolutely worthless. It has no value. In administering the serum do not give less than 100 c. c. Test to find out the type and then after you decide on the type give one hundred cc. and then eight or ten hours later another 100 cc. If the patient has the second, third or fourth type I doubt the efficiency of the serum. The Government is making demands for all of the No. 1 that is being manufactured by the New York State Board of Health and the Rockefeller Institute and it cannot be bought. I was fortunate enough to be adjacent to a Government Base Hospital and the Department Laboratory and the Government officials are always glad to help you out. They would either send a man to administer it, or they will supply you with it if you need it.

### TREATMENT OF PNEUMONIA.

S. T. R. Revill, Louisville, Ga.

In presenting this paper for the consideration of the Georgia State Medical Association, I do so with the full knowledge that the ideas I shall advance are at variance with the almost universally accepted plan of treatment of the most dreaded of all the acute infections.

Acute lobar pneumonia, with its clear cut clinical picture, well known pathology, grave prognosis, difficult and as yet unsatisfactory plan of treatment, was one of the first diseases in which our efforts were directed toward discovering a specific serum therapy. An enormous amount of work has been done along this line by many investigators since the pioneer work of the Klemper Bros., in 1891, but so far the results obtained have been only partially successful, and as yet we have no well known and accepted plan of serum therapy. Recent investigations at the Rockefeller Institute by Cole and others have disclosed several reasons for the failure of serum treatment in pneumonia, and the following important reasons have been especially emphasized:

“First, the serum must correspond to the type of pneumococcus producing the infection.

Second, the serum must be administered in large doses, and preferably intravenously.

Third, to be most effective the treatment should be given as early as possible.”

Investigators in our country and abroad have divided pneumococci producing lobar pneumonia into four main classes or types, Cole, and more recently Avery, have worked out rapid methods of determining the type of pneumococcus, which is the etiologic factor in any given case, so that with the prompt and proper administration of the corresponding immune serum a favorable termination may, with a relative degree of certainty, be predicted. This is true, however, only with the first and the second types of infections, for with cases which are caused by the third and the fourth types no markedly beneficial results have been obtained. There is no longer any question as to the etiologic relationship existing between the diplococcus pneumoniae and lobar pneumonia, but much is yet to be learned as to the mode of infection and the resulting disease.

Since 1880, when our Surgeon General Sternburg discovered the germ, and found same in his own mouth, it has been a well known fact that about twenty per cent. of normal individuals harbor pneumococci in their mouths and noses as harmless parasites, and in order for infection to occur, there must be some lowering of general resistance or some break in the continuity of the respiratory tract. Experimental studies in animals, and the course of the disease in man, suggest most strongly local changes in the respiratory tract precede the infection, so that a combination of factors must be set in operation in order for the disease to develop. No matter how the infection commences, the fully developed disease must be considered a general intoxication with localization of the process in the lungs. Concerning nature's defensive forces against infection with the pneumococcus little is known. The serum alone is neither bactericidal or antitoxic, and the destruction of the germ can only be brought about by the leucocytes after the cocci have been acted upon by the opsonins and, in favorable cases, the opsonic index rises as the crisis approaches.

I feel certain that if we but understood

the mechanism by which nature's forces are set in operation, and could follow the chain of events that transpire in the economy from the beginning of the infection up and through the crisis, we would be much nearer the goal toward which we have been striving than ever before. However, the high mortality that statistics show for many years past, and especially those of some of our cantonments, force us to the conclusion that the present accepted plan of treatment falls far short of the goal.

For the first six years of my professional life I followed strictly what was, at that time, the accepted scientific treatment for pneumonia, with a mortality of about forty per cent., and gladly would I have availed myself of any plan of treatment that offered the slightest chance of reducing this high death rate. Yet, for two years of this time, my friend and colleague, Dr. Pierce Hubert, not only offered me such a plan in Norwood's Tincture of Veratrum, but urged it upon me, and although he had used it for twenty five years, with practically no mortality, I still remained skeptical.

In 1911, with grave fears and many qualms of conscience, I began to use Veratrum in the treatment of pneumonia. However, the results obtained from its use leave nothing to be desired, and when used properly, notwithstanding all authorities to the contrary, one may, with assurance, safely predict a favorable termination in practically every case in which it is employed, where the individual is over three and under sixty years of age, save in alcoholic and organic heart cases.

I have used it in fifty odd consecutive cases with one death, and this occurred in an eighteen year old negro boy, whom I had dismissed after having seen him for two consecutive days with a normal temperature, pulse and respiration correspondingly good.

The plan of treatment which I use and advocate is this:—An initial dose of calomel, followed in from four to six hours with castor oil. In from fifteen to thirty minutes after the calomel is given begin with Norwood's Tincture of Veratrum Veridi, of course, varying the dose according to age. In a child, one year, start with one drop every two hours, and increase about one-half of a drop for each year up till five years.

If an adult is seen within the first forty eight hours of the disease, give six (6) drops in an ounce of water every three hours day and night. If, at the expiration of twenty four hours, the pulse rate has not dropped to or below ninety, the dose is increased one or two drops, as the exigencies of the case may demand, until the pulse rate remains between sixty five and eighty five. In some cases (about twenty five per cent.), more or less persistent nausea develops. A mustard plaster, extending from the umbilicus to the ensiform will, as a rule, relieve this disagreeable feature very promptly.

The physiological action of Veratrum is said to be that of a powerful spinal and arterial depressant, lowering the pulse rate by direct action on the heart muscle, jervine and by stimulating the pneumogastric, rubijervine. May it not, in addition to this, have some specific effect in stimulating the formation of substances which are inimical to the life and growth of the pneumococcus. Though I am unable to find anything that verifies this opinion, yet as ninety per cent. or more of these fifty odd cases have subsided by crisis, and it is a well known fact, in favorable cases, that opsonins increases up to and through the crisis, it is reasonable to suppose that the formation of opsonins are stimulated. More especially when we take into consideration the fact that in broncho-pneumonia, a disease caused by a variety of germs, the beneficial results obtained from the use of Veratrum are nothing like so striking.

All decided departures from the generally accepted method of the best authorities bring forth criticism and usually are promptly discarded but if my feeble efforts arouse sufficient interest in any one for him to give Veratrum a fair and impartial trial, my purpose has been accomplished.

#### Discussion of Dr. Revell's Paper.

**Major E. E. Murphy, (Augusta):** I think the Association should be very grateful to Dr. Revell for the clear cut paper which he has presented combining as it does two totally different angles in regard to the treatment of pneumonia, calling attention to two things which are certainly worth the attention of this association. The first is



a question of the newer methods of handling pneumonia, and second the persistence of belief on the part of many of the best men in the profession as to the efficacy of a circulatory depressant, particularly veratrum to cure pneumonia. We are going through a transitional stage in regard to it; we are on the verge no doubt of more great changes following. At the present we can only go so far as to say that for type one we have worked out a specific which is really a specific if given early enough, and that it does hasten the crisis by a number of days and largely expedites the recovery of the patient. But however gratifying that result must be on the face of it, we must still remember that type one gets well in the majority of cases anyhow. It is important to keep that in mind. In the second place the reaction is a very violent reaction in a great many cases, so it is not difficult to differentiate. Do not give type No. 1 serum in all cases, hoping that if it is type 1 it will hit and if not it will do no great harm. Type your case first as early as possible and then if it be No. 1 type give No. 1 serum and let the other types take their chances with other methods.

The fundamental thing in regard to any pneumonia, no matter what its infecting organism may be, is that you have a toxemia to deal with, a local manifestation in the lung. Let us not in our consideration of the local condition, lose sight of the fact that the man is suffering from a general toxemia. This manifests itself by a fever, prostration, by degeneration of the heart muscle and a locking up of the secretion. What can we do for these things? Can we conserve that heart muscle, possibly by the use of stimulation, and also possibly by the slowing action of aconite or veratrum? I do not say that we can't, because personally I am not familiar with it. I am afraid; I have heard so much about it that I think I will cautiously sneak up on it before long and give it a trial. After I have done that then I will be entitled to express an opinion. But it is conceivable that the administration of veratrum by the slowing of the pulse rate to the point where it will not lower the resistance of the patient, may in itself be a strong factor in conserving the endocardium of the heart muscle which is none too good.

I do not think, however, that we have an intestinal toxemia to deal with in these cases, and if we can eliminate these toxins we are doing a great deal. We can eliminate through the intestinal tract and through the skin; we cannot expect any elimination through the lungs. A careful flushing of the colon every morning is just as important in my mind in the management of pneumonia cases as is the proper toilet of the patient's mouth, the washing of the face, etc. The effect of any soluble toxine depends not upon the total amount in the patient's system, but on the amount that circulates through the central nervous system in a given period of time.

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**Dr. E. C. Thrash, (Atlanta):** This technique is now in the formative stage and we expect great things of it. In reference to giving the serum I think Dr. Murphy is correct in saying that under ordinary circumstances we should not give the serum until you are certain of your type. Of course doctors in the remote districts cannot always get a test made promptly, but I think the patient had better be given a chance because in my experience while you do not get prompt reaction by the administration of atropin and adrenalin, they come out all right and if you keep up the atropin four to six hours and the adrenalin every two hours during the period of serum rash, the rash seems to subside.

The technique for the sputum is simple. Wash it well, grind it in a mortar and inoculate something like one half to one cc. of the sputum in the abdomen of a mouse. It is then allowed to run from six to eight hours after which the abdomen is opened and about three ounces of formalin and a solution of three or four c.c. salt solution is shot back and forward until the abdomen is well washed. It is chuck full of pneumonic germs. One half c. c. of this is combined with a dilution of the receptive serum. After they have been incubated for one hour then under the microscope you can see a group of these germs just as in the Widal reaction for typhoid. The type in which the clumping takes place is the type you have. Any person who has a window sill laboratory can make these tests and give you a report in eight or ten hours. I believe that at

no distant day we can type our pneumonias and get a serum that will cure.

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**Dr. J. O. Elrod, (Forsyth):** I would hate to have pneumonia myself and let this bunch of experimentalists get hold of me. We have had almost all makes of serums recommended here but it seems to me it is in the experimental stage. I believe I would rather have pneumonia and let it alone, they nearly all get well anyhow. What are men going to do for laboratory work? It seems to me that we are in the experimental stage and that it is up to the men who are doing experimental work to work it out. The men who have not laboratories are going to have a hard time unless they treat it in the old fashioned way.

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**Dr. S. T. R. Revell (Louisville):** Dr. Murphy said he would like to try veratrum—and I would like to try serum. If I had pneumonia, or somebody I loved had pneumonia I would try the antiphylaxis test and use serum; but if I had to go away from home and be gone an indefinite time I would take veratrum and use it. I had the experience of losing about 40 per cent. of my cases when I used digitalis, strychnia, atropin and alcohol. When I saw that I had a case of pneumonia I wished I was some place else, because they died. Since I have started to use veratrum I have had a series of cases which I have reported and they have all gotten well except the one case. I do not limit the dose, I give it until it produces results. I have used as high as 11 drops every three hours with an adult for days at a time. The average patient will respond when you give to about eight drops—some earlier. One case had persistent nausea throughout, but that is not the veratrum. If you had a serum that covered the various types of pneumococcus infection, it would be an ideal plan of procedure. I practice medicine in the country. I have no laboratory. I might if I had a few mice or guinea-pigs, use the Cole methods or the Aversy method but I do not do so and I am well satisfied with the results I have gotten since I started to use veratrum.

## WAR SAVINGS SALES NEAR BILLION MARK.

Including cash received in the Treasury Department on October 21 from the sale of War Savings securities, the total Treasury receipts from this source amounted to \$801,453,415.86. This represents the purchase of War Savings stamps to the total maturity value of approximately \$950,824,474.10.

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## ANOTHER LIBERTY LOAN COMING.

Secretary of the Treasury McAdoo has announced that, no matter what the results of the pending overtures for peace may be, there will be another Liberty loan. To use his expression, "We are going to have to finance peace for awhile just as we have had to finance war."

There are over 2,000,000 United States soldiers abroad. If we transport these men back to the United States at the rate of 300,000 a month, it will be over half a year before they are all returned. Our Army, therefore, must be maintained, victualled, and clothed for many months after peace is an actuality.

The American people, therefore, having supported the Liberty loan with a patriotism that future historians will love to extol, will have an opportunity to show the same patriotism in financing the just and conclusive victorious peace whenever it comes.

Not for a moment, however, is the Treasury acting on any assumption that peace is to come soon. Until peace is actually assured the attitude of the Treasury and the attitude of the whole United State Government is for the most vigorous prosecution of the war, and the motto of force against Germany without stint or limit will be acted up to until peace is an absolute accomplished fact.

One more Liberty loan, at least, is certain. The fourth loan was popularly called the "Fighting Loan"; the next loan may be a fighting loan, too, or it may be a peace loan. Whatever the conditions, the loan must be prepared for and its success rendered certain and absolute. Begin now to prepare to support it.

# THE JOURNAL

OF THE

## Medical Association of Georgia

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ANONYMOUS CONTRIBUTIONS, whether for publication, for information, or in the way of criticism, are consigned to the wastebasket unread.

NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

**AN IMPORTANT LESSON.**

Among the many lessons that may be learned in consequence of the world war is one that from the observations of the editor is essential. The doctor is careless.

We realize that this is a broad statement but if we will stop for a moment for self-analysis, the majority of us must, at least, to ourselves plead guilty.

The editor has for the past year been in a position to ascertain facts concerning the methods of quite a number of his fellow practitioners in Georgia, that to his mind shows that we do not pay the necessary attention to methods of physical examination.

He has in a way supervised the physical examination of registrants in this state and, therefore, his attention has been more directly drawn to the lack of proper examinations than could otherwise have occurred.

Georgia has the unenviable record of being among the states with the highest percentage of rejections at camp. This is not due to lack of knowledge as might be presumed, but to careless methods of examining registrants. This is shown conclusively by the fact that 82 per cent of rejections were due to apparent defects. We realize that any physicians may overlook an obscure chest lesion or a neurasthenic condition or other states that require special skill or knowledge, but only 18 per cent were of the non-apparent type.

The busy doctor has a way of jumping to conclusions too quickly, and does not devote sufficient care to physical diagnosis. Our profession is too careless. Let us correct our own defects. Let us profit by our former mistakes, which instances referred to, were not serious. Let us learn this lesson "BE CAREFUL IN DIAGNOSIS."

### VOLUNTARY MEDICAL SERVICE CORPS.

How the civilian physicians of the country have been readily responding to the call of the United States Public Health Service for medical aid in the districts most affected by the epidemic of influenza is reflected in two letters, written a week apart to the President of the Central Governing Board of the Volunteer Medical Service Corps of the Council of National Defense. On September 27 Surgeon General Rupert Blue of the United States Public Service requested the co-operation of the Volunteer Medical Service Corps in the following letter:

September 27, 1918.

The President,  
Central Governing Board,  
Volunteer Medical Service Corps,  
Council of National Defense,  
Washington, D. C.

Sir:

In view of the present epidemic of influenza which, if it spreads at the same rate as heretofore, will practically cripple the industries of the country, I have the honor to request that steps be taken to mobilize fifty units of the Volunteer Medical Service Corps each consisting of ten physicians for emergency service in connection with the prevention of, and relief from, this disease. Such units upon mobilization will be directed to report to officers of the Public



Health Service placed in charge of this work.

For the present, the salaries and traveling expenses of these physicians will be borne by the American Red Cross. The salary in each case will be \$200 per month, in addition to the reimbursement of their traveling expenses, and maintenance.

Anything that your Board may do in this present emergency to mobilize and place at the disposal of the Public Health Service and the American Red Cross such medical units will be deeply appreciated and will serve to demonstrate the value of the recently created Volunteer Medical Service Corps.

Respectfully,  
(Signed) RUPERT BLUE,  
Surgeon General.

The names of the five hundred doctors asked for were furnished within seventy-two hours. Three days after the first call, another request for five hundred doctors was received from the Public Health Service, and on October 1 the names of 1,135 physicians had been furnished, from whom more than the necessary number were obtained. On every day since, additional names of volunteers have been coming in, and they have been sent to Surgeon General Blue, for his reserve list.

The officers of the Public Health Service expressed gratification at the prompt response from the Washington headquarters of the Volunteer Medical Service Corps, and also for the replies which were being received from doctors in many parts of the country, and on October 4 Surgeon General Blue sent the following letter of appreciation:

October 4, 1918.

The President,

Central Governing Board,

Volunteer Medical Service Corps,

Washington, D. C.

Sir:

I take pleasure in informing you that the officer in charge of the measures for combating the present epidemic of influenza in New England has stated by telegram that the number of doctors who have already reported for duty are sufficient to meet the needs of the situation in those states.

As you know, these doctors were obtained through the co-operation of your office and

it is most gratifying to certify in this way to the prompt response given by your office to our requests for medical assistance. This is an instance which serves to demonstrate the value of the organization of the Volunteer Medical Service Corps in a National emergency like the present.

Respectfully,  
(Signed) RUPERT BLUE,  
Surgeon General.

Surgeon General Blue also wired on that day to all State Health Officers as follows:

"Public Health Service will mobilize with aid Volunteer Medical Service Corps all outside medical aid required in combating present influenza epidemic. Red Cross, upon specific request from this service, will mobilize nursing personnel and furnish necessary emergency hospital supplies which can not be obtained otherwise. Inform all city and county health officers your state that all appeals for aid must be made to State health department, which will make request for Surgeon General, Public Health Service, whenever local needs require. Whenever necessary, Public Health Service will establish district officers to co-operate with State officials and distribute medical and nursing personnel."

Officials at the headquarters of the Volunteer Medical Service Corps are gratified that the organization was able to meet the emergency in this way, fulfilling the purpose for which it was created, namely, to place on record and classify information as to civilian physicians, so that a request for aid voiced by a government department could readily be supplied.

Nov. 4, 1918.

Honorable Newton D. Baker, Chairman,  
Council of National Defense.

Washington, D. C.

My dear Mr. Chairman:

I have the honor to submit the following summary of a report on the progress of enrollment in the Volunteer Medical Service Corps.

1. More than sixty thousand enrollments with complete application blanks are now on record in the office of the Medical Section of the Council of National Defense.

**Class I:**

(a) Physicians under 55 years of age, who are without an obvious physical disa-

bility which is disqualifying and without dependents.

(b) Physicians under 55 years of age, who are without an obvious physical disability which is disqualifying and with one dependent in addition to self.

Of the sixty thousand applications, there are 11,250 registered in Class 1.

#### **Class 2:**

(a) Physicians under 55 years of age, who are without obvious physical disability which is disqualifying and with not more than three dependents in addition to self.

Of the sixty thousand applications, there are 10,125 registered in Class 2.

#### **Class 3:**

(a) Physicians under 55 years of age who are without obvious physical disability which is disqualifying, and with more than three dependents in addition to self.

(b) Physicians essential to communities.

(c) Physicians essential to institutions.

(d) Physicians essential to health departments.

(e) Physicians essential to medical schools.

(f) Physicians essential to industries.

(g) Physicians essential to local and medical advisory boards.

Of the sixty thousand applications, there are 10,125 registered in Class 3.

#### **Class 4:**

(a) Physicians over 55 years of age.

(b) Physicians under 55 years of age with an obvious physical disability which is disqualifying.

(c) Physicians rejected for all government service because of physical disability.

(d) Women physicians.

Of the sixty thousand applications, there are 19,125 registered in Class 4.

#### **Class 5:**

(a) Physicians who are professionally or morally ineligible.

In Class 5 there are 1,440 physicians registered.

#### **Class 6:**

(a) Physicians whose disqualifications were waived.

In Class 6 there are 30 physicians registered.

#### **Class 7: Exceptions to Class 1:**

There are 2,955 registered in Class 7.

#### **Class 8: Exceptions to Class 2:**

There are 3,045 registered in Class 8.

#### **III. (a) Medical Group.**

1. 49,200 physicians were registered as general practitioners and obstetricians.

2. 1,080 general practitioners were registered who do 10 per cent surgery.

3. 690 general practitioners with hospital appointment.

4. 315 internists or expert consultants.

5. 375 pulmonary experts.

6. 390 pediatricians.

#### **(b) Surgical Group.**

1. 585 surgeons exclusively.

2. 1,785 surgeons with 10 per cent medicine.

3. 300 surgeons with hospital appointments.

4. 45 orthopedists.

5. 450 genito-urinary surgeons.

6. 45 oral surgeons.

7. 270 gynecological and abdominal surgeons.

8. 150 railway surgeons.

9. 75 anesthetists.

#### **(c) Specialist Group.**

1. 305 ophthalmologists.

2. 1,845 eye, ear, nose and throat specialists.

3. 360 neurologists.

4. 135 psychiatrists.

#### **(d) Laboratory Group.**

1. 60 pathologists.

2. 90 bacteriologists.

3. 75 clinical microscopists.

4. 30 chemists.

5. 255 hygienists and sanitarians.

6. 150 radiologists.

#### **IV. Preference of service.**

(a) 29,820 expressed a preference for service in the Medical Reserve Corps of the Army.

(b) 3,945 expressed a preference for service in the Naval Reserve Force.

(c) 15,750 on first or second choice, are desirous of entering the Public Health Service.

(d) 2,300 expressed a preference for service on Medical Advisory Boards.

(e) 1,125 expressed a preference for service on Local Advisory Boards.

(f) 22,500 expressed a preference for service on either Medical Advisory Boards or Local Advisory Boards.

#### **V. Industrial service.**

(a) 45,495 have never been employed in industries.

(b) 5,565 have done surgical work in industrial plants.

(c) 6,840 both surgical and medical work in industrial plants.

(d) 1,725 are employed in contract practice for families of workmen.

VI. Languages.

(a) 50,730 speak only English.

(b) 1,155 speak French and English.

(c) 4,125 speak German and English.

(d) 1,650 speak French, German and English.

(e) 585 Spanish and English.

(f) 120 speak French, Italian and English.

(g) 90 speak Italian.

(h) 330 speak French and one other modern language.

(i) 945 speak Russian, Japanese, Norwegian, Danish or Yiddish.

(j) 270 speak other languages not mentioned.

The definite result, shown by this survey which was only begun sixty days ago, is extremely gratifying, and the information that is not available in any other form should be of great value for war or peace. We can safely count on a total of 75,000 applications for membership in this Corps, judging from the rate of enrollment at present. Add to this the 35,000 doctors that are in service and that are thoroughly classified, we have a record of the profession of the United States of inestimable value, of 110,000 of the estimated 130,000 legalized practitioners in the whole country. Especially is it interesting when it is realized that all members of the Volunteer Medical Service Corps have practically pledged themselves to serve their Government in any medical work they may be asked to perform.

Respectfully yours,  
(Signed FRANKLIN MARTIN.)

1. The Platinum Section and the Section of Medical Industry, War Industries Board, desire to express appreciation of the hearty response made by physicians, dentists and others when the call for the scrap Platinum was made.

2. As the Governmental demand for Platinum in the making of explosives, etc., has been tremendously decreased by the curtailed war program, it is requested that no

further scrap Platinum be tendered to the Government through the channels indicated in our communication of September 17th, 1918.

CHARLES H. CONNER,  
Chief, Platinum Section.

LIEUT. COL. F. F. SIMPSON,  
M. C., U. S. A., Chief of Section of Medical Industry.

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**DON'T SELL YOUR LIBERTY BONDS;  
TO HOLD THEM IS PATRIOTIC,  
TO KEEP THEM IS WISE.**

The wide distribution among millions of American citizens of Liberty loan bonds makes our Liberty loans, according to Secretary of the Treasury McAdoo's expressed opinion, the soundest of national financing. That these bonds be kept widely distributed among the American people is of great importance to the Nation and to the individual holders of the bonds.

United States Government bonds in the past have gone above par, as high as \$139 for a \$100 4 per cent. bond. That Liberty bonds will be well above par when peace comes is very probable. Holding one's Liberty bonds, therefore, is wise as well as patriotic.

Every holder of a Liberty loan bond should heed the caution to hold to his or her bonds, because there are going to be great efforts by shrewd and unscrupulous people to buy or secure at inadequate prices these bonds from holders who are not well informed as to stock and bond values.

Worthless or near-worthless stock or stock of only speculative value—"wildcat stocks" they are called—are going to be offered for Liberty bonds. Some will be urged not to sell or exchange their Liberty bonds, but to buy the stock and give the Liberty bonds as security for the purchase price. This is a camouflaged attempt to get Liberty bonds in exchange for the stock of their companies.

If every holder of a Liberty bond will consult a bank before he disposes of it, the get-rich-quick concerns will not prosper, but the individual bond-holders will, and the American people as a whole will be benefited.



### **HOLD YOUR LIBERTY BONDS.**

Next to the imperative duty of American citizens to support the Liberty loan is their duty to hold their Liberty bonds. It is not full service to the country to purchase Liberty bonds and then throw them upon the market, thus putting upon others the real burden of financing the war. Unless the necessity for disposing of them is very great, every owner of a Liberty bond should hold fast to it.

Holding onto one's bonds means that one has not only lent so much money to his Government but also that he is not spending that money for goods, labor, and transportation needed by the Nation in the prosecution of the war, and is thus leaving the resources of the country more freely at the disposal of the Government as well as giving it financial backing. This is a double service.

Secretary Baker says that the wide distribution of the Liberty bonds amongst the mass of the American people makes our Liberty loans the soundest national financing in history. It is a good thing for every Liberty bond holder to be a creditor of his or her Government, and it is a good thing for the Nation for its obligations to be widely scattered amongst its citizens and not congested into the hands of the rich. It is a most hopeful thing for the United States that the best investment in the world, the Liberty bonds, are very widely distributed amongst millions of its citizens.

Judging the future by the past, our Government bonds issued during this war are going to rise greatly in value with peace. In 1884, 4 per cent. United States bonds sold in the open market as high as \$130, and in 1901 brought over \$139—that is, \$139 and some cents for a \$100 bond. That the Liberty bonds are going to rise well above par in value is something that the most conservative will admit is well within the bounds of possibility.

The shrewd and unscrupulous, the birds of prey in finance, realize the worth of Liberty bonds, and are going to use every effort to secure them from the hands of those owners of them who are uninformed or who are ignorant of stock and investment values. The favorite method will probably be offering

stock of wildcat companies or other speculative ventures. Speculative is really too conservative a word to apply to some of these stocks, since to say that they have a speculative value is flattering in the extreme. They have no value at all, except in the hands of unscrupulous people, who trade them for money or Liberty bonds to ignorant investors.

Some of the get-rich-quick schemers propose not to trade their gold-brick stock for Liberty bonds but to lend their clients money to buy their stock, taking Liberty bonds as security. This is camouflage—only a thinly disguised method of securing Liberty bonds for worthless or near-worthless stock.

Every holder of a Liberty bond before he disposes of it, and especially before he trades it for stocks or other bonds, should consult a bank. Much money will be thereby saved to the owners of Liberty bonds and the finances of the American people be better conserved.

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### **HOLD YOUR LIBERTY BONDS.**

Of the many millions of acres of public lands the title of which is in the Federal Government, the United States owns some 5,000,000 acres of oil lands.

A Liberty bond holder is a bond-holder of the United States, and it is a poor exchange to trade a Liberty bond for stock in an oil company of doubtful value.

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### **HOLD YOUR LIBERTY BONDS.**

Of the many millions of acres of public lands the title of which is in the Federal Government, the United States owns some 53,000,000 acres of coal lands.

To exchange a United States Liberty bond for stock in a coal company of doubtful value is not sound finance. Safety first is a good business motto for Liberty bond holders.

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### **LOANS TO OUR ALLIES.**

The extension of a credit of \$9,000,000 to Belgium made recently makes the total advances by the United States to Belgium \$80,020,000.

The total amount advanced in the war to all of our associates in the war against Germany is \$7,529,476,000.

**HOLD YOUR LIBERTY BONDS.**

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PUBLISHED MONTHLY UNDER DIRECTION OF THE COUNCIL

Editorial and Business Office, Atlanta, Ga.

Subscription Price, \$1.00

Entered at the Post Office at Atlanta, Ga., under the Act of March 3, 1879.

VOL. VIII

ATLANTA, GA., NOVEMBER, 1918

No. 7

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## THROMBO ANGIITIS OBLITERANS.

**Its Characteristics And Treatment. Apparatus Used. Report of Cases.**

By

**Samuel J. Sinkoe, M.D., Clinical Assistant  
Atlanta Medical College. Orthopedic  
Department.**

The disease, Thrombo Angiitis Obliterans, formerly called "Obliterative Endarteritis," has within recent years become a distinct pathological and clinical entity. Notwithstanding the fact that this disease is more prevalent in the colder climates, a large number of these cases may be seen in various localities throughout the South, but on account of the failure of most medical men to recognize this condition, it remains often undiagnosed. As a result tentative diagnoses, such as Raynauds disease, frost-bite, flat feet, broken arches, neuritis, phlebitis, etc., are made and improper treatment thereby instituted, which hastens the formation of ulcers, gangrene, etc. Another deplorable

feature which exists, is the tampering of these lesions by chiropodists, who not understanding the pathology of this disease, take it for granted that they are dealing with a trivial condition and treat it accordingly, either by use of arch supporters, orthopedic shoes, local applications or by use of the knife, the latter being one of the most dangerous measures which should be resorted to, as it exaggerates the symptoms in every case. If a correct diagnosis is made as soon as the lesion is recognized, proper treatment can be instituted which means the saving of the limb and what is more important in not a small number of cases, the life of the patient.

Dr. Leo Buerger, who has worked extensively upon the pathological finding of the blood vessels of the amputated limbs, describes the condition as an occlusive thrombosis of the deep arteries and veins beginning in the distal arteries of the limbs and extending upwards to involve the large trunks of the foot and leg. A marked periarteritis may also be present. A cross section of an actually diseased blood vessel will show the lumen to contain a red or mixed clot, with giant cells, leucocytes, endothelial

cells, and disintegrated nuclei in its periphery. The media and adventitia are also infiltrated with polymorphonuclear leucocytes. In the healed lesions, the vessels have a tendency to the establishment of a supplementary circulation by the formation of vascularized connective tissue (organization) with canalization of the same.

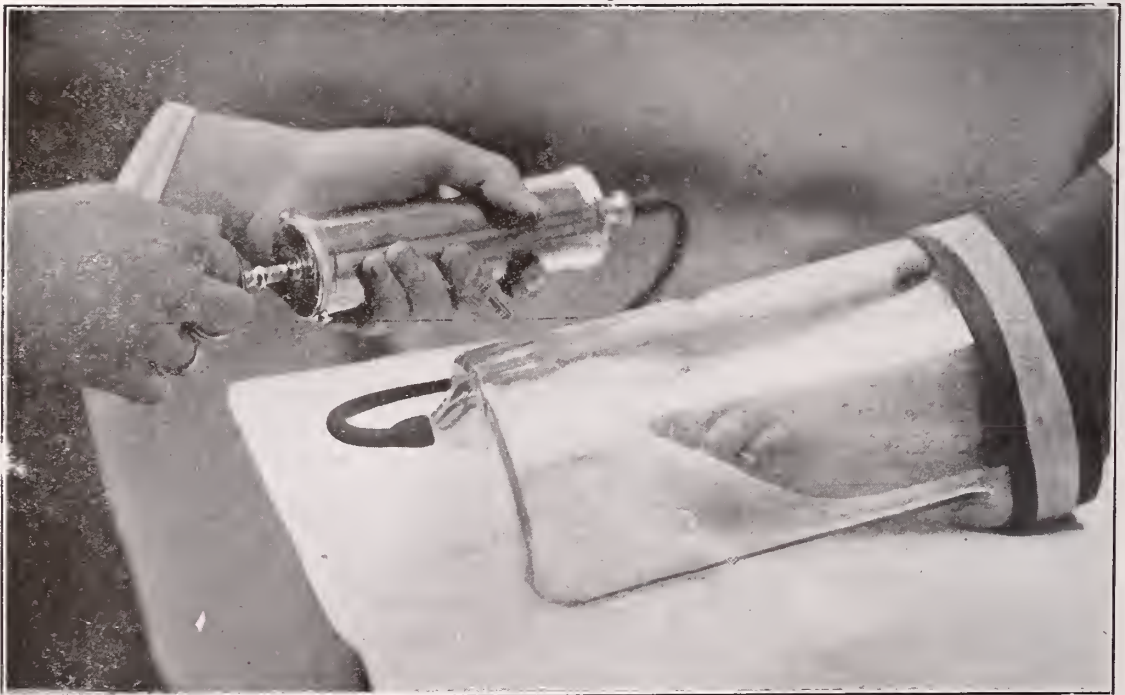
This condition seems to have a predilection for Russian, Galician and Polish Jews, although a few typical cases have been reported among other nationalities, almost all cases occurring in men between the ages of 25 and 40.

The theories offered as to the causation are so numerous that we will only make

bearing upon this disease. However because of the constant pathological and microscopical findings most clinicians are in favor of the infection theory, as advanced by Buerger, although the true cause still remains a mystery.

### Symptoms.

The clinical manifestations depend a great deal upon the nature of the existing condition. In the early stage when there is only slight involvement of the blood vessels, the patient will complain of a cramp-like sensation in the calf of the affected limb. This is particularly noticeable when the patient tries to walk, when he is compelled to stop and rest until this annoying condition dis-



**Type of Suction Apparatus Used in Treatment of Thrombo Angitis Obliterans.**

mention of a few of them. They are:

- (1) Prolonged exposure to cold.
- (2) Neuritis.
- (3) Syphilis.
- (4) Neurosis.
- (5) Rye-bread as an article of diet.
- (6) Cigarette smoking (excessive).
- (7) Trauma.
- (8) Infection.
- (9) Disturbances of internal secretion.
- (10) Alteration of the blood as, increased viscosity, etc.

It has not been conclusively proven that any one of these etiological factors have a

appears, (intermittent claudication). In a large number of cases, this condition is associated with a peculiar discoloration of the foot, which may assume various hues, being dependent upon the pathological changes present in the diseased arteries or veins. The color which is usually of a reddish hue in a large majority of the cases may assume a dusky hue if there is additional dilatation of the superficial venous capillaries, and even a cyanotic one, whenever there is venous obstruction marked pallor of the foot is present in a few patients.

A feeling of cold in the affected foot or

toes is also an almost constant complaint of these patients, and has given rise to innumerable incorrect diagnoses such as Raynaud's disease, frost-bite, etc. In some cases on account of the thrombosis of the superficial veins, red cutaneous nodules or cords make their appearance and are extremely painful. They are usually situated over the internal or external saphenous vein. In a few cases the vessels of the upper extremities become involved causing more pain, discoloration, etc.

These individuals may go about their business and manage their affairs for some time, without experiencing much discomfort, but sooner or later, in a large number of cases, trophic ulcers begin to appear, and it is usually this unexpected condition which causes these patients to consult their physician. They usually appear on the toes but may occur on other parts of the feet, although the latter location is not common. These ulcers are extremely painful, causing untold amount of suffering, loss of sleep, weight, etc. In some instances the pain is so intense that some patients attempt suicide or become mentally deranged.

The positions assumed by these patients during their distress are quite characteristic. They vary in different individuals, and the patient assumes that position which seems to afford him relief. For instance, some seem to be benefited by lying on their knees, others are made more comfortable by keeping the affected limb in the pendent position, in a few cases, elevation of the affected limb seems to afford relief.

Another characteristic and usually constant feature, is the reddening of the affected limb in the pendent position, and blanching in the elevated position.

These ulcers unless they show a tendency to heal, relative to the improvement of circulation, may begin to slough and become gangrenous, causing loss of toes. Occasionally moist gangrene may complicate the condition and endanger the life of the patient. One of us (Sinkov) has had under his care two such patients. One of these was a young man about 28 years of age, who when I first saw him, had moist gangrene of all the toes of his left foot. Within a few days, this condition had spread, to about three inches below the knee joint, when pyaemia and septicaemia developed, with the resulting death of the patient. The other was a man

about 25 years of age who lived in Charlotte, N. C. When he was first seen, he was being treated by a local physician for Raynaud's disease, and was using about 8 grains of Morphine Sulphate daily. One leg had previously been amputated for this condition and the other leg had become involved, with the presence of ulcerations on the toes, and moist gangrene of the fore part of the foot. As the disease had progressed too far for any palliative procedure, amputation of the other leg was performed. These cases illustrate the dangerous complications which may follow a seemingly benign and innocent condition that has gone untreated.

If the affected limb is exposed to a cooler atmosphere, e. g. when the dressings are re-



**Case of Thrombo Angiitis Obliterans, showing destruction of entire forefoot as a result of ulcerations and gangrene.**

moved prior to treatment or if there is an open window permitting the circulation of cool air, the pain becomes more intense and sometimes unbearable.

As a result of these symptoms, these individuals always have their mind concentrated upon their condition, are unable to sleep, lose weight, become neurotic, exhaust their energy, and become emaciated and anaemic. In the more severe cases, typical mental symptoms may develop, and the patient may attempt suicide.

Corroborative of the clinical findings is



the fact that on palpation of the dorsalis pedis, internal or external plantar, popliteal arteries, etc., the pulsation will be entirely absent or very much enfeebled, due to the pathological condition present. In the more severe cases the larger vessels may become obliterated. The same condition may also affect the vessels of the upper extremities.

Diagnosis; Other conditions that bear a certain resemblance to this affection are:

- (1) Erthromelalgia.
- (2) Raynaud's disease.
- (3) Plantar neuralgia.
- (4) Intermittent limp.

(5) Those diseases which are occasionally complicated by gangrene of the toes, e. g., Diabetic gangrene, Senile gangrene, etc. However the diagnosis is easily made from the appearance of the affected limb, the absence of pulsation and the characteristic clinical symptoms.

Prognosis. This depends of course upon the extent of the pathological process, its duration and the treatment resorted to. As the disease has a tendency to self-cure by the establishment of a collateral circulation this process can be hastened by utilizing some of the therapeutic measures that would cause a passive hypermia. However, in a few cases, no treatment seems to be of any material value and the symptoms become so pronounced that amputation becomes imperative.

#### Treatment.

Various therapeutic measures have been advocated and used by many clinicians in combating or alleviating the symptoms of this disease but in our experience, the results have been very unsatisfactory, since permanent results have very seldom been noticed while in many cases, the measures resorted to seem to aggravate the symptoms. This is true of "baking" which will be spoken of later.

The therapeutic measures hitherto used and which still occupy a vast field, are as follows:

- (1) Use of drugs, either by local application or taken internally.
- (2) Local measures such as baking and electricity.
- (3) Intravenous injections of anti-coagulating substances, hypodermoclysis, etc.
- (4) Surgical, e. g., anterior venous anastomosis; ligation of the femoral vein.

Among the drugs, nitroglycerin, potassium iodide, antisyphilitic remedies such as mercury, arsenic, various glandular extracts such as thyroid, thymus, ovarian, etc., are still being used with very little beneficial results.

Nitro-glycerine and other vaso-dilators have been prescribed with the idea that they dilate the peripheral arterioles thereby reducing the blood pressure, relieving spasm, etc. Their administration however is an erroneous procedure since the blood pressures in almost all of these patients are far below the average.

Anti-syphilitic drugs do not exert any beneficial effect since in nearly all cases there is no positive venereal history and the Wassermann reaction is almost always negative.

Glandular extracts are used as theoretical presumptions, no beneficial effect having been noticed after their continuation for over long periods.

In regards to the intra-venous administration of anti-coagulating substances and Ringer's solution, Kojia of Japan and Willy Meyer of New York are favorably impressed with their results obtained. Nearly all the patients that had been treated with the suction apparatus had previously tried the intravenous measures and also the intramuscular injections of the Saline Solution and the results generally have been very unsatisfactory although a few patients obtained relief.

Baking is used very extensively throughout the country in treating this condition but no permanent effects are noticed. Besides in many instances the pain is aggravated because of the constant change in temperature inside the baker due to the circulation of air, and which acts as an irritant to the hypersensitive nerve endings.

Various forms of electricity, e. g., faradism, galvanism, high frequency, etc., diathermia have been used by various clinicians, results obtained however were very poor and this method of treatment soon fell into disuse.

Among the radical measures may be mentioned "Arterior-venous" anastomosis, introduced by Weiting and ligation of the femoral vein suggested by Hess and Oppel. Weiting's idea was to direct the blood current from the arteries to the patients veins

before the occluded portions of the arteries are reached, assuming that in this way the distal parts would receive enough nourishment through the medium of the venous capillaries so as to keep up the vitality of the parts involved. This procedure has been given a trial in various hospitals and dispensaries and the results have not been very encouraging. Investigators in this field, e. g., Horsely and Whitehead and De Witt Stetten through experiments that they have performed are convinced that this method does not prove of any advantage.

Ligation of the femoral vein is still performed by various surgeons but the results are only temporary as the troublesome symptoms recur after a short time. This being due to the venous stagnation which takes place. However in a few cases improvement can be noticed.

In March 31st, 1917 issue of the American Medical Journal, one of us (Sinkoe) in collaboration with Dr. I. Gottlieb of New York City reported a series of 20 cases, that were treated with the Bier's suction apparatus. They were all of the out-patient department of the Mt. Sinai Hospital of New York City, the treatment having been carried out for over five months, the patients attending the clinic regularly three times a week. All other treatments at the time were stopped.

The apparatus that we used was an ordinary Bier's suction cylinder, into which the affected foot was placed. Attached to the open end of the cylinder is a rubber cuff which fits snugly around the ankles, so as to prevent the ingress of air. A small hand suction pump is used to exhaust the air. The reason that we did not use an apparatus that enclosed the entire leg and foot was due to the fact that the distal parts of the foot were mainly affected and responsible for the symptoms and we wanted more local reaction there.

The twenty patients that were treated in this way had all tried the various remedies which were spoke of previously. Only two patients out of the entire twenty had faint pulsations in their feet, the remaining eighteen having no pulsation whatsoever in the vessels of the feet, both anteriorly and posteriorly; one patient had his femoral vein ligated; two had ulcerations on their toes; three had one leg amputated previously for the same condition. In about one-half the cases the feet were blanched and in the other half, they were either cyanotic or red.

The results obtained from treatment were as follows:

(1) As far as subjective symptoms are concerned, the patients assert that they were never before so much benefited by treatment.

(2) There was increased warmth of the toes and foot.

(3) They were able to walk a much longer distance without having to stop and rest.

(4) Either entire disappearance of pain in the toes and foot or considerable abatement of same.

(5) Improvement of color.

(6) Rapid healing of ulcerations.

(7) Improvement of appetite, increase in weight, etc.



**Case of Thrombo Angiitis Obliterans, showing trophic ulcer on big toe.**

The cases below taken at random will illustrate the results obtained.

Case 1. I. B., aged 39, Russian Hebrew, tailor, fifteen years ago, was troubled by the great toe of his left foot, which became blue and cold, ulcerated, and was finally amputated. Eight years afterward, the same signs appeared in the right foot, and after seven years of suffering, this leg was amputated above the knee. Five months ago an ulceration appeared on the second toe of his left foot. The toe became red, swollen and extremely painful, especially at night. Pulsations in the dorsal and plantar arteries of

the foot were absent. After a few treatments with the suction apparatus, he was able to walk several blocks without difficulty, and the foot felt warmer. After three weeks treatment, the patient had no pains at all in his foot, the toe was not swollen and the ulceration was shallower. At present, the ulcer is about one half the size it originally was, there is no pain whatever, and the patient sleeps well and is able to walk a number of blocks without difficulty.

Case 2. D. H., age 26, Prussian Hebrew, clerk. Blood pressure Systolic 118, Diastolic 80. Habits: 20 cigarettes daily, no beer or whiskey.

Family History. Father and Mother living and well; no history of tuberculosis, cancer or syphilis. No member of his family ever had this condition.

Past History. Measles during childhood, no history of Typhus or other illnesses.



**Case of Thrombo Angiitis Obliterans, showing partial loss of Big Toe due to Thrombo Angiitis Obliterans, and trophic ulcer on dorsum of adjacent Toe.**

Present History. Onset about three years ago when patient began to complain of a burning sensation in the soles of both feet. He visited a local physician who prescribed, arch supporters. The arch supporters were worn for about six months with no relief whatsoever. He was still suffering from severe pain in both feet and decided to take a trip to Elmira, New York to consult a

well known chiropodist there. The condition was immediately diagnosed as flat feet, and Whitman's arch supporters were prescribed. The nail of his little toe of his left foot was removed because of a little pus formation beneath it. About this time the big toe of his left foot began to pain him and an ulcer formed on its inner aspect. This ulcer was excised by the same chiropodist and was followed by excruciating and persistent pain. Since then the ulcer has refused to heal.

He returned to Atlanta and consulted us. The condition was recognized as a typical case of Thrombo Angiitis Obliterans. Physical examination showed a reddish discoloration of both feet more marked in the left one, which became blanched on elevation. No pulsations were palpable in the vessels of the left foot either anteriorly or posteriorly. The pulsations in the right foot were faint. On the inner aspect of the big toe of the left foot is a hollow, punched out ulcer, which is extremely painful. There is also a slight discharge of pus from the little toe of the left foot.

The suction treatment was started Jan. 10th, three treatments being administered a week. At present, the patient feels a great deal better, is able to walk further, has very little pain and the ulcer is becoming shallower. There is still, however a slight discharge of pus from the little toe. Local applications of scarlet red ointment and balsam peru to the ulcer have also been tried, with considerable relief.

Case 3. H. A., Russian Hebrew, age 46. Truck driver. 18 months ago was troubled with pain in calf of left leg, soon followed by pain in sole of foot and great toe. Foot became cold and pale and symptoms grew worse, compelling him to give up work. Ligation of the femoral vein was done by Dr. Lilienthal in hopes that his symptoms might improve, but was unsuccessful. He had been receiving baking right along with no improvement. On examination the foot and leg were swollen, and blue, the big toe cold, and showed evidences of impaired nutrition, the nail distorted and the color of a striking purplish blue. No pulsations were felt in any of the arteries of the foot and leg. The suction treatment was carried out regularly three times a week. After three weeks treatment, the patient was able to walk 10 or 12 blocks without difficulty, the foot and



toes felt warmer, the big toe assumed a healthy pink color instead of the previous blue, and the patient was able to attend to his business. He is still taking the treatment and improving steadily.

Case 4. I. W., Russian Hebrew, Age 26, Tailor.



**Case of Thrombo Angiitis Obliterans, showing an ulcer under Big Toe and Trophic Ulcers under anterior arch of foot.**

**Family History:** Father and Mother died of old age. No history of Tuberculosis, Cancer or Syphilis, no family history of Thrombo Angiitis Obliterans.

**Blood pressure,** Systolic 115, Diastolic 85.

**Habits** 25 cigarettes daily, no beer or whiskey.

**Past History:** Measles when a child. Has never had typhus fever. Denies all other diseases.

**Present Illness:** Onset about three months ago when patient began to complain of cramp like sensations in the calf of his right leg. Pain was not constant but seemed to appear at intervals especially when he tried to walk, at which time, he was compelled to stop and rest until this annoying symptom disappeared. This condition soon became more aggravated and compelled him to give up his work. At times, his right foot would become cold and pale. However there was no pain referred directly to his foot.

He was admitted to the orthopedic department of the Atlanta Medical College and upon examination the following condition was present. Both feet were extremely pale, the muscles of both legs flabby, and the nails were distorted. The pulsations in the right foot were hardly palpable in the left one, they were not accentuated. There were no trophic disturbances such as ulcers, gangrene, etc. An interesting feature was the rapid reddening of the right foot when placed in the pendent position and the blanching when placed in the elevated position.

A diagnosis of Thrombo Angiitis Obliterans was made and the patient placed on the proper treatment. He has up to the present writing only received two treatments with the suction apparatus and we expect in time to attain the results we obtained in the other cases.

### **REPORT OF INTERESTING NASAL CASES PROBABLY DUE TO SYPHILIS.**

Obscure syphilitic manifestations in the nasal cavities are much more frequent than many of us suppose. Since the introduction of the Wasserman test the writer believes that we have made ourselves too dependent upon it as the final test in diagnosis, to the exclusion of clinical symptoms which are too important in the management of pathologic conditions. The following case is presented in detail as affording many points of interest to the neurologist, the internist as well as to the rhinolaryngologist.

Mr. E. E., aged 51, cotton merchant. Patient had always been strong and healthy, never having had a severe spell of illness during his life. Is temperate in both drinking and smoking, in fact seldom takes a drink. Has lived in Atlanta most of his life. His father and mother are both living, and both in excellent health. In August, 1902 he moved to Shreveport, La., to represent a northern firm as their cotton buyer. In that city he seemed to enjoy good health, remaining at his usual weight of 150 lbs. Patient was not over four feet nine inches in height. Had spent each Summer in Atlanta, returning

to Shreveport in the Fall. During the Winter of 1903-04 he did not feel in his accustomed good health, and along in the Spring of 1904 began to have neuralgia and drawing sensation in the muscles in the back of his neck. In May, 1904, he returned to Atlanta to live, having made new connections in the cotton business. On arriving in this city he consulted his physician on account of this severe neuralgic pain in the back of his neck. The appetite was not good and he was already beginning to lose flesh. Being a neighbor and a warm personal friend of mine, I saw him quite frequently but in an entirely unprofessional manner. In this way I noted his gradual decline. His physician attributed the trouble to muscular neuralgia, as a result of malarial intoxication. He was now treated steadily but without improvement, while the pain gradually extended down into his shoulders and arms. These pains grew to be excruciating and would come upon him in paroxysms. His digestion and appetite were poor, and his nightly sleep very much disturbed. Not improving (which is characteristic of a great many patients, and we can hardly blame them) he called in another physician who took charge of his case. He also attributed the cause to malaria, and immediately began to dose him with various medicines, changing the same from time to time. He was put upon a strict diet, and his liver was kept very active. Soon a derangement of the function of this organ was diagnosed as playing a prominent role in producing the various physical ailments. The patient was blessed with an excellent nurse in the shape of his wife, who rubbed and massaged him with various liniments and looked after his every physical and mental comfort.

The pain however did not subside, but was extending still further down the patient's back, and even into his legs. At no time were there any signs of paralysis, and the patient was able once a day to go to his office and remain for a few hours.

In giving the history the patient told me that his physician made a thorough examination of his secretions, urine, etc., and found nothing abnormal. The pains in the shoulders, especially the left, and in the back were sometimes accompanied by such spasms of the muscles as almost to draw the head to the shoulder. In September, five months later

the patient, not improving but seemingly growing worse, becoming weaker each day losing flesh and the pains being so severe as to render sleep impossible except for a few hours at night by means of codeine, he consulted a renowned osteopath, who told him it was due to the nerves from the spinal column. He gave him three treatments a week and put him upon a still more restricted diet. This treatment he continued for a month, having discarded all medicines except certain mineral waters suggested by friends. At the end of this time he was no better in any respect, the pain not having been relieved, they being now in the legs as well as in the arms, and accompanied by the most violent spasms. At this point the patient began to be hoarse, but without cough or expectoration.

During a social visit he remarked that he had taken a severe cold and if he did not get better was coming to me professionally. In the meantime he continued to have thorough bodily massage but being dependent upon medicine to bring sleep. It was frequently remarked among his friends that Mr. E. looked like a doomed man and they believed that he would live but a few weeks. On my return to the city after the Christmas holidays, his wife telephoned that Mr. E. wished to consult me in reference to the severe cold in his head and throat. Being a personal friend and a neighbor, I was really sorry that the patient had come to me for professional advice and treatment, for which his previous history in regard to his medical treatment (of which I was cognizant) I felt that I could do but little for him now that he seemed in the last stage of some obscure nervous disease.

When he came into my consultation room he was so weak, feeble and emaciated that I felt as if he would never be able to return to his home. His weight then was 95 pounds, having been reduced from 150. He had no signs of paralysis, his reflexes were normal, and his only complaint being the intense pain and spasms in the legs and arms accompanied with the gradually increased weakness.

Two weeks previous according to statement, he contracted in addition to the hoarseness, a cold in the head, and this had gradually kept up until at present it was quite disagreeable having hardly sufficient



strength to blow the tough secretion from his nasal cavities. His throat also i. e., the larynx worried him considerably by being so tight as to interfere with his breathing especially at night.

**Examination of Nasal Cavities:** At the muco-cutaneous surface in both nostrils, the parts were thickened and inflamed from irritation produced by the nasal discharge. The right cavity seemed pretty well filled with muco-purulent secretion. After shrinking the tissues with cocaine and adrenalin and by assistance from both patient and myself, the cavity was fairly well cleaned. Far back on both septum and middle turbinal there was a dirty yellowish membrane covering the parts which extended also into the nasal-pharynx. A slight manifestation of the same condition was found on the left side but not quite so marked. The parts bled when some of the membrane was detached. By means of cotton on the end of an applicator I detected roughened and exposed bone high upon the septum at its posterior free border and also the same condition at the posterior end of the middle turbinal on the same side, i. e., the right. None was detected on the left. The pharynx showed nothing abnormal, but there was a large amount of tough yellowish muco-purulent secretion coming down from the nasopharynx and clinging to the post-pharyngeal walls. It was impossible to inspect the nasopharynx on account of the relaxed condition of the palate and the gagging produced in my efforts to use a palate retractor.

On inspecting the larynx, I found a beefy-red swollen condition of the whole laryngeal mucous membrane, the cords being of the same general color. The membrane there and further down in the trachea seemed to be producing a tough, membranous secretion which it was impossible for the patient to expel. It gave the sound of a "croupy cough." He had no pain either in his throat or nose, but complained some of a pain just at the base of the nose over both frontal sinuses. Transillumination of these sinuses showed no shadow at any point.

The objective picture here presented was to me quite significant of a specific condition, but close inquiry elicited not one ray of such a history. I am sure the patient would gladly have told me if such had been the case knowing that the treatment then

would be much more effective. I knew him intimately and there were few men who lived a life of more sobriety. Even before his marriage he was never given to the slightest dissipation. The only other condition which such symptoms were likely to represent was tuberculosis, and this to me almost seemed the correct diagnosis. I had the secretion from the nose and throat examined but this was negative for tubercle bacilli. The loss of weight, hoarseness, slight cough, were symptoms quite significant, especially after the negative specific history. However, I know that histories were often uncertain, and as an experiment in conjunction with the local treatment of cleansing and nitrate of silver applications, I put the patient on the following treatment: On account of the poor appetite and atony of the gastric function, he was given ten drops of equal parts of tincture of nux vomica and compound tinct. of gentian in a little water and corn whiskey before meals. After meals he was started on five drops of a saturated solution iodide potash in one-half glass water, and this was increased one drop every day. On the morning and afternoon he was given an expectorant mixture of carbonate of ammonia, fluid ext. of squills, etc., this being used to soften and aid the expulsion of the tracheal and laryngeal secretion. He was not limited to his diet, but told to eat as much nutritious food as possible. He was also to use a douche of warm saline solution in the nasal cavities three or four times daily.

The next day being very cold patient did not report, but his wife telephoned me that a swelling had developed just at the root of his nose accompanied by some pain on pressure. In the evening I called and found the patient sitting up in a big chair with a swelling, puffy and globular looking, about the size of a walnut, just at the root of the nose. It had developed slowly during the day. I advised hot fomentations every hour—a good saline internally, and the other treatment to be continued as prescribed. The next day when seen the edema or swelling had extended to the lids of both eyes until they could not be opened and even down on the cheek and nose. The original point of the swelling was beginning to subside. The day following Dr. Block, a neurologist, was called by me in consultation. Dr. Block made



a very thorough physical examination of his heart and lungs, muscles, nervous reflexes, and urinary secretions. This latter was found to contain a trace of albumin but no casts.

Dr. Block was unable to suggest anything further except to give the patient a mixture containing the bromides, to be taken at night for his extreme nervousness. Edema remained limited to the face, and this gradually disappeared entirely in one week.

From this time on the patient began to improve and the internal remedies were never changed, the iodide being increased to fifty drops three times daily. I saw him at my office every other day, cleansed thoroughly the nasal cavity, touched the necrosed condition in the nose and nasopharynx with a strong solution of nitrate of silver, followed finally with a covering of aristol powder. Inhalations of terebene in benzoinated albolene were given for the larynx and trachea. One morning about three weeks after the beginning of the treatment, the patient blew from his nose a mass of secretion and a small piece of bone which proved to be a part of the vomer.

The patient was treated at gradually varying intervals until August 1st, of 1905, i. e., seven months when he was dismissed apparently cured except that he was still hoarse from the hypertrophied condition of the laryngeal mucous membrane. I tried astringents and sprays, but this seemed to do but very little good. The medicine was never changed during the whole course of treatment, the remedies being gradually left off with the improvement of the patient's condition.

December 28, 1905, one year after I first saw him professionally, he weighed 150 pounds, and with the exception of slight hoarseness he is as well and as strong as at any time during his life. There is no discharge in either the nasal cavities or the naso-pharynx. Up to the present time there has been no further trouble. He is still in the best of health now for 14 years.

Remarks: This case presents many interesting as well as obscure features. In the beginning of the patient's trouble, there were some symptoms of malarial neuritis and in fact all the physicians consulted during the first months of his illness attributed

the cause of his indisposition to malaria. The very first symptom noted by the patient was a general feeling of malaise and loss of appetite. In May, 1904 he returned to Atlanta weakened in health and suffering with drawing pains in the muscles at the back of his neck. There was never any rise in the bodily temperature throughout the course of the disease, nor was there at any time signs of paresis in any portion of the body. It is just possible that a slow grade multiple neuritis might produce some of the symptoms in this case, but my observation and that of other observers would not lead us to such a conclusion. For indeed at no time during the illness were there signs of paresis, but most prominent were the signs of spasms and intense neuralgias of the sensory nerves.

The diagnosis of malaria intoxication was certainly a most natural one, and it is still a question in my mind whether the beginning trouble could not have been attributed to this cause.

The brilliant result obtained by the internal administration of the iodide of potash compels one to acknowledge the specific basis of the whole constitutional derangement, and yet with the exception of this one fact, the good results obtained by the internal administration of the iodides, there was absolutely no history or symptoms to warrant us in drawing such a conclusion. I examined him thoroughly at the time, and even since then there has not been the slightest signs of glandular enlargements of any portion of the body. No falling out of the hair, no symptoms of sore throat, no obscure pains at night, absolutely nothing to warrant us in suspecting syphilis as the cause. So foreign to my mind was syphilis as the cause of naso-pharyngeal ulceration at the time of these very active symptoms, that I concluded the ulceration was without doubt tubercular, coupled with the great loss in weight and the seeming involment of the bronchial tubes. However, Dr. Smith, an excellent pathologist made a thorough examination of the secretions with absolutely negative results. His mother had been treated for years for a superficial skin cancer on the forehead and this is still under the constant observation of a dermatologist.

Another symptom which was misleading to

me was the existence of an odor from the nose in no wise characteristic of that experienced in the cases of late tertiary syphilis where the odor is exceedingly offensive, and especially where there are areas of neerosed bone. While many things point to the correctness of our diagnosis, we must remember that the administration of the iodide of potash often proves of benefit and even curative in cases other than syphilis as for instance an alternative in various conditions where we can give no better name than "blood dyschrasia" this remedy is often of marked value. As an adjunct to the relief of various inflammatory exudates in the body, I know of no one remedy that is of greater value.

Consequently, because the case responded to the iodide of potash and seemingly was brought to a successful issue through such administration, is no self-evident proof that we were correct in our diagnosis.

The question could very naturally arise, was malarial intoxication the primal cause of this physical derangement and did its presence in the system so impoverish the blood and thereby the nerve tone as to produce the train of symptoms which occurred throughout the course of the disease? In my own mind there is such a possibility, and yet in studying the literature of any similar case reported I can find nothing which would lead me to such an affirmative answer. After all that can be said the history of this case and the results obtained by the treatment certainly bear out the probable diagnosis of its specific character.

Another case evidently specific in character, occurring in my practice several years ago, had many obscure points in its diagnostic history and yet the final results must lead us to the same conclusion as was obtained in the first case.

The second case is that of a Mrs. M., age 55, widow. This patient was a woman of most excellent standing. She was the mother of four children all of whom were unusually robust in their physical growth. The family history precluded any idea of specific taint. The father and husband died several years ago of typhoid fever. The patient had always enjoyed the best of health and had never suffered from any of the feminine complaints.

Present History: In April 1903 patient

consulted me on account of a cold in the head which had been present for two weeks and which did not improve after the use of all the ordinary remedies. Her chief complaint was a stuffiness and inability to breathe comfortably through the nasal cavities. There had been some symptoms of tenderness about the external part of the nose whenever the handkerchief was used. With this exception her general health was perfect and there had been no signs of constitutional derangement.

Examination showed some swelling of the whole outside of the nose giving her the appearance of the so-called "frog-face." Nasal respiration was difficult producing the whistling sounds so characteristic of an intra-nasal swelling. On examination with reflected light the anterior part of the septum was thickened and oedematous resembling very much the appearance seen in an abscess of the septum. This could not be reduced to any appreciable extent by the use of cocaine and adrenalin. The outer walls including the turbinates were only slightly swollen. There was no history of traumatism. This was before the time of the Wasserman test and hence this could not be used. The question of malignancy could very readily be suggested. There was no bleeding when the septum was touched and only the thick leathery sensation was imparted to the nasal applicator. There was very little space left between the septum and the outer walls. The pharynx and nasopharynx were absolutely normal in appearance. No glandular enlargements could be elicited.

However the latter seemed to me the most probable diagnosis from all the clinical features of the case.

Treatment and Results: The patient was placed upon rapidly increasing doses of the iodide of potassium. The fact that this medicine was tolerated with the greatest ease indicated somewhat that the condition would respond to this line of treatment. Almost immediately the parts responded and in a few days the patient began to lose the stuffy feeling in the nose and respiration became much easier. No other treatment was used with the exception of an oily spray which was only for comfort.

The treatment was continued for three months at the end of which time the nasal

cavities were perfectly normal in appearance and up to this time 13 years there has been absolutely no return of this or any other condition resembling a complication of specific dyscrasia.

Remarks: Of the certainty of diagnosis there of course may be some difference of opinion but the results obtained by the use of the iodide of potassium would rather indicate the specific nature of the affection. As was stated at the beginning of this paper the writer believes that there are many lesions in the nasal cavities which have their dependence upon syphilis. It is not always necessary to look for ulcerations and even destructive processes in order to have a picture of nasal syphilis. Manifestations of specific lesions in the nose resemble many other affections and the fact that we sometimes get such poor results in intra-nasal operations may have its real cause in a failure to recognize a constitutional systemic dyscrasia which in one word is syphilis. The rhinologist who waits for typical text-book pictures of lesions or is entirely dependent upon clinical tests will fail in many instances to bring about a successful result. The obscure ramifications of the syphilitic virus are manifold in character and we can never be too diligent in instituting anti-specific treatment if no other cause for the condition can be found.

Congestion and oedema of the nasal mucous membrane as is sometimes found in the early stages of syphilis very frequently resembles those cases of vaso-motor rhinitis in all of its manifold symptoms.

A typical case of this kind occurred in my practice three years ago. Mrs. E. E. L., age 44, consulted me in Feb. 1915, with what she denominated a severe cold in the head. Patient was confined to her bed complaining chiefly of the inability to breathe through the nose, frontal headache, sneezing, all the symptoms of acute rhinitis. Patient said she had been having periodic attacks of this kind for the last year.

Examination showed congestion and oedematous turbinates with a serous discharge. Under local applications of cocaine and adrenalin the membrane was with difficulty contracted. The writer has always found such a condition characteristic of vaso-motor rhinitis and syphilitic congestion. Ordinary rhinitis will show contraction immediately

under cocain application thus differing from the two conditions. The usual treatment was instituted but with very slow and imperfect results. The patient was under the writer's care for several weeks and it was only by continuous treatment that she was made even partially comfortable. The greatest complaint being the stenosed condition of the nasal cavities at night. This was relieved during the day especially when the patient was out in the open. A symptom still further characteristic of vaso-motor rhinitis. It seemed as if this latter condition was the proper diagnosis. However the patient's progress was exceedingly slow and there were repeated exacerbations of all the nasal symptoms. An examination made two months after the first observation of the patient revealed a small superficial ulcer on the septum opposite the middle turbinate on the left side. Syphilis had not been suspected on account of the excellent social standing of the patient. A Wasserman was immediately made which was returned plus 3 positive. This patient was immediately placed upon rapidly increasing doses of the iodide potassium with a corresponding improvement of her condition. The ulcer healed immediately and complete relief from all the symptoms of nasal stenosis rapidly disappeared together with the accompanying vaso-motor disturbances.

It is now three years since this attack and the patient has had no further trouble.

In conclusion the writer cannot urge too strongly the importance of the syphilitic virus as the fundamental cause of many obscure rhinological conditions which resist the ordinary treatment. Nor should we be governed entirely by such tests as the Wasserman in directing us to the proper line of treatment. During the last twenty years the writer as the head of a large free clinic where the majority of patients are negroes and where he has seen syphilitic lesions of every known variety, has adhered entirely to the old treatment of iodide of potassium and mercury and with few exceptions the results have been entirely satisfactory if this treatment is given from year to year.

#### Discussion of Dr. Dunbar Roy's Paper.

**Dr. Lewis M. Gaines (Atlanta):** This paper I feel merits a word because of the



interesting lessons that one can draw from it. I think one of the most important lessons is that probably more mistakes are made by not looking than by not knowing. If, as is always the case in any obscure condition where the diagnosis is in the balance, we should always suspect a possibility of syphilis. I am more impressed constantly with the fact that a very large percentage of the people in our country and in our cities and towns are syphilized as well as civilized. There are two types of syphilis. In some the physical signs are such that there is no doubt; in others the physical signs are entirely wanting—there are none whatever; there is no history whatever obtainable showing a congenital acquired syphilis. Many people have syphilis and never know they have it and deny the possibility that they ever could have it. So for these reasons as well as others, in any obscure condition where the nervous system is involved it should be borne in mind as a distinct possibility, no matter what the condition of the patient, that there may be syphilis. I think this patient was very fortunate in developing a nasal condition because otherwise it would probably have never come to light. To my mind this case was syphilitic neuritis. Syphilitic neuritis is rather unusual so far as my experience is concerned, but it occurred. This patient no doubt had multiple neuritis of a syphilitic type and the use of the iodide of mercury in his case fortunately was sufficient. Some cases respond to a certain type of therapy and other do not. Fortunately he did to this. Some patients respond to mercury and the iodides and some require the reinforcement of salvarsan. I feel this case is very interesting not only from the nasal possibilities but interesting to all of us as a matter of diagnosis.

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**Dr. M. M. Stapler, (Macon).**—This is interesting not only because of this case which the doctor reports, but with syphilis we very often find the disease localized. It will be held in the tissues for years and will not manifest itself because it is encapsulated and the germs do not involve any glands. They will stay there until the person is quite old and then manifest themselves in a way that makes it an obscure case. In the eye, you will very often have a low grade inflammatory condition for which you do not

have any cause. In fitting the glasses you find the iris does not respond to the muscular action, and in tracing this down you find it is due to a syphilitic tinge. It may be hereditary and come down through generations and we have no reason to suspect the patient, we should exclude syphilitic involvement, all the time. In treatment I prefer to use salvarsan for the reason that you get more prompt action. In iritis cases if you use salvarsan you get quick results and get a cure where probably a longer treatment by iodides and mercury would give time for more trouble. I just want to emphasize the fact that syphilis is a very insidious thing and we need to keep on the watch for it all the time.

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**Dr. E. S. Osborne, (Savannah).**—I quite agree with Dr. Gaines that in obscure cases we should exclude syphilitic involvement, but to do this requires more than a heart examination and it requires more than one examination. It requires not only a Wassermann, but possibly a provocative Wassermann; it requires examination of the spinal fluid. The examination is comprehensive and embraces the whole body. You will have your eye symptom, your interstitial keratitis, which even though it may manifest in early life, you will find some evidence of it in the vessels and some manifestation in the deeper layers of the cornea throughout the life of the individual. This is pretty good evidence that there was a syphilitic involvement—which is hereditary. I have been much impressed with cases in which there was absolutely no symptoms of syphilis at all. A mother will bring a child into the office perhaps with a running ear. You see the typical Hutchinson's teeth in this child. You do a Wassermann which in all probability is positive. That mother will not have had one single symptom to her knowledge to indicate that she was infected with syphilis. In all probability that mother has been infected for years and she has brought forth syphilitic children into the world, but with absolutely no indication that she is a syphilitic herself. I have seen several of these cases and tried to work them out. I am impressed very strongly with the importance of not being satisfied with any cursory examination, but absolutely exhausting every

known means in our power to eliminate syphilis before we arrive at a definite diagnosis.

**Dr. Dunbar Roy, (Atlanta).**—With reference to this case, it was before the days of the Wasserman test; this was a case in 1903. It is on account of the obscure manifestation of the syphilitic infection of the nasal tract that I have written this paper. There are a number of cases that will come in, for instance with a stopping up of the nose; they will complain that they cannot open the nose. If you inquire into the history of the case and put them on iodide of potassium, where this condition is due to a syphilitic condition, you will be surprised at the relief they will get, in a week or ten days they will respond to the treatment and the patient will get well. You will find that many of these cases that you have been treating for weeks and weeks under the old treatment will respond immediately to the anti-syphilitic treatment.

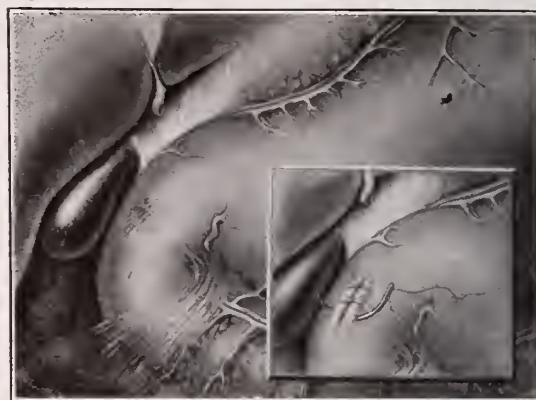
### THE TRAGIC COMPLICATIONS OF STOMACH AND DUODENAL ULCER.

**Edward G. Jones, M.D., Atlanta, Ga.**

The spectacular complications of the lesions under discussion are (1) perforation and (2) hemorrhage; the more insidious complications are (3) cancer and (4) deformities from scar tissue.

**Perforation.**—An ulcer may perforate so slowly that the advancing inflammatory reaction will encourage and effect adhesions to surrounding viscera, such as the pancreas, omentum or mesentery; the consequence is that under such circumstances the symptoms are not overpowering and acute, and the situation is not immediately dangerous to life. Such a chronic perforating process is frequent in the stomach as compared with the duodenum, the wall of the latter being so much thinner than that of the stomach.

The symptoms, signs, and consequences of such chronic perforation may not be distinguished from those of chronic ulcer without perforation, except in so far as the perforating sinus or cavity may be outlined by proper x-ray technique.



**Fig. 1. Showing duodenal ulcer from which profound hemorrhage had occurred. Transfusion of blood. Insert shows infolding of ulcer. Gastro-enterostomy. Gained 40 lbs. Health perfect two years after operation.**

**Acute Perforation** is an accident of tragic significance. There is a sudden onset or terrific pain in the upper abdomen—so severe that the patient not infrequently almost literally drops in his tracks. It is perhaps more overpowering than any pain except that of acute pancreatitis. The upper abdomen is extremely rigid. The most exquisite tenderness is present. Vomiting may occur, but is probably no more common than vomiting from any other severe abdominal crisis. There may be blood, although perforation is not necessarily attended by hemorrhage. As one may suppose a state of shock accompanies the above symptoms; such shock indeed may be fatal in its inaugural stages, or it may pass off to be followed in a few hours by an increased rapidity of pulse and other evidences of spreading peritonitis. Of course, all the ordinary symptoms of shock—such as clammy skin, perspiration, sub-normal temperature, and portentous facial expression—may be expected.

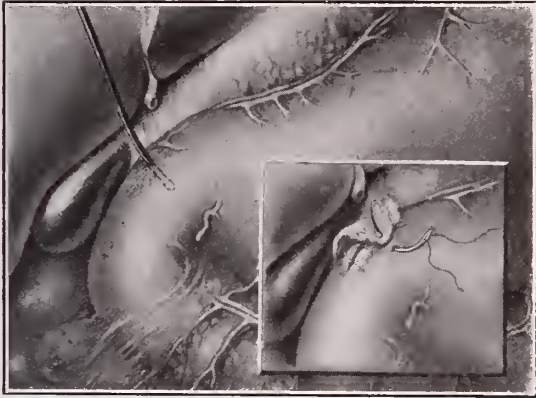
The diagnosis will rest upon the fact, usually easily evident, that there is serious acute trouble in the upper abdomen, and upon the added fact that there is a **history of previous indigestion**. If time is at one's disposal, or if there is available a member of the family who has been acquainted with the history of the patient during recent years, such a history of long drawn out indigestion can usually be obtained. In the absence of such a history perforation may have occurred, but there can be no assured-



ness on this point in the absence of this information.

The differential diagnosis relates chiefly to acute pancreatitis, acute appendicitis, gall stone colic, ruptured gall bladder, ruptured liver abscess, ptomaine poison, diaphragmatic pleurisy.

The treatment is immediate operation and



**Fig. 2. Perforated duodenal ulcer with insert indicating closure by infolding and protection by omental fat. No gastro-enterostomy.**

closure of the opening with or without gastro-enterostomy.

It has been held rather universally that unless the condition of the patient precluded the procedure, it was highly necessary to add gastro-enterostomy to the closure of the perforation—the assumption being that here is a patient who has suffered for years from the consequences of chronic ulcer and the ulcer will not be cured without the gastro-enterostomy. There has been accumulated, however, considerable trustworthy evidence to support the view that the simple closure by infolding of a duodenal ulcer which has perforated will result in a clinical cure. So much may perhaps not be said of gastric ulcer. Since, however, the accident under consideration usually involves the duodenum instead of the stomach, the efficacy of the simple infolding assumes a corresponding value and importance.

Moreover it must be taken into consideration first, that the patient is usually in a critical condition, and second that the performance of gastro-enterostomy will at least entail the possibility of extending the peritoneal soiling, which already exists, to a new neighborhood and to an extent which may well give one concern. We believe that the two foregoing facts are entitled to a weight

of consideration which will in the average instance make it relatively unwise to do the added gastro-enterostomy in case of duodenal perforation.

**Hemorrhage.**—A single overpowering hemorrhage from the stomach based on no previous history of indigestion should be treated with great circumspection. It is not often that surgical intervention is warranted, such practice has been disappointing much more frequently than otherwise. The hemorrhage does not often occur. We are frequently unable to explain it. Cirrhosis of the liver, varicose esophageal veins, aneurysms penetrating the stomach or the esophagus, a curious weeping gastric mucous membrane (unexplained as to origin) should receive consideration. It is doubtful if any of these conditions is a proper subject for surgical attack. It is believed by some that gastro-enterostomy will stop weeping mucous membrane. This we consider doubtful, being rather inclined to the view that the benefit when obtained has been a coincidence rather than a consequence. The treatment for such acute hemorrhage is strict rest in bed, the exclusion of anxious relatives, opium to the point of narcosis, blood transfusion, and no food by mouth. The practice of introducing hot water cautiously through the stomach tube continuously for awhile commends itself, especially if the patient has been accustomed to take the stomach tube and can, therefore, submit without severe punishment. The suggestion of Crile that such patients be raised to the sitting position posture and so kept until they faint deserves consideration. This is done upon the theory that when the blood pressure is thus lowered an excessive amount of adrenal secretion is produced and, being distributed through the vessels, tends to stop bleeding.

If the hemorrhage is backed by a history of chronic indigestion, especially if hemorrhage has occurred before, the presumption is that it originates in a chronic ulcer. Even if the inference seems clear that this is the source of the bleeding the situation calls for the exercise of the highest degree of judgment in determining a plan of procedure. The methods above mentioned as being applicable to the control of a single acute hemorrhage are applicable here. One, however, is fortified by the practical certainty that in



this instance he is dealing with a condition which he may reasonably expect to control by operative interference, the major question for decision being whether the immediate shock of the patient (from hemorrhage) will justify any kind of abdominal operation.

If operation be undertaken for bleeding from the chronic ulcer it is usually proper to infold the ulcer or to excise it with the knife or cautery and close the opening. Gastro-enterostomy is commonly proper in addition, more especially if the ulcer be gastric.

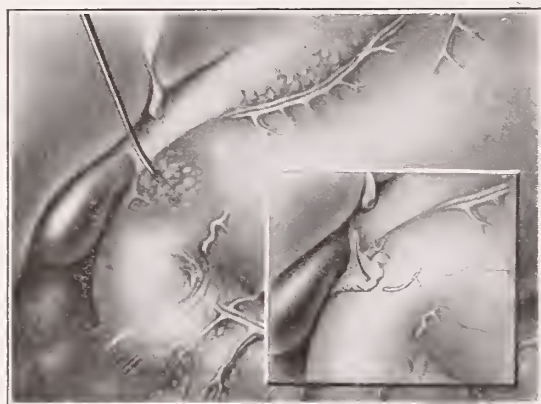


Fig. 3. Perforated gastric ulcer with inconclusive prior history of indigestion. No gastro-enterostomy.

**Cancer.**—Two-thirds of the cancers of the stomach are supposed to originate in chronic stomach ulcers—not in duodenal ulcers. This is perhaps the most weighty factor to be considered in the life history of a stomach ulcer.

**Obstruction and Other Deformities.**—Scar tissue in any hollow viscus is more than usually troublesome. The scar sequent upon chronic ulcer in the region of the pylorus may greatly interfere with the emptying of the stomach. This circumstance can be diagnosed much more easily than the ulcer can be diagnosed. Retention of food, x-ray examination, evidences of dilatation, etc., make the picture clear. The treatment for pyloric obstruction is pre-eminently gastro-enterostomy.

Deformities such as hour-glass stomach may result from the location of the ulcer and scar proximal to the pylorus. The treatment of such a condition varies with the deformity. A gastro-gastrostomy between the two pouches may be advisable. A gastro-

enterostomy which utilizes a proximal stomach pouch may be better. Partial gastrectomy may commend itself.

#### Discussion of Dr. Jones' Paper.

**Dr. J. T. Rogers, (Savannah):** This paper is very important and I am glad of a chance to let it be known that we recognize that the best friend the gastro enterologist has, very often, is the surgeon. I realize the importance of this paper because of having lost a friend from this condition, because of the operation not having been done in time. We were treating the patient at the time and confessed that we did not know how at that time to treat a duodenal ulcer and we waited until we were too late to make a positive diagnosis and the patient died after twenty four hours. But I believe if a man has an acute pain in this region and it comes on suddenly, as in both these cases, that the abdomen should be opened immediately. There is no need of pumping them with morphine when you see them suffering such acute and severe pain in this region. We may not always be able to say positively that it is caused from a ruptured ulcer; it does not matter what it is the opening of the abdomen is a matter of only a few days in the hospital and there is no danger to it.

One of these cases had an appendix removed and the abdomen was closed and after a few hours later they saw that he was sinking instead of getting better and the doctors wanted to reopen, but the assistants would not agree because they thought he was dying. After he died they did a post mortem and found it was an ulcer that had ruptured. The point I wish to make is that when it happens, as it has in Dr. Jones' cases these should be carried to the hospital and the abdomen opened immediately. If you find an acute appendix, not only take it out but search to see that the stomach and the duodenum is free from ulcer.

**Major C. C. Harold, (Macon):** I wish to emphasize the extremeness of the pain. No man who has ever seen a man with a perforated ulcer forgets the intensity of the pain. As Dr. Jones said it really knocks a man out. I remember seeing a boy on a street in Macon and the pain was so sudden that he was not able to cross the sidewalk. I had another

patient coming down from Atlanta in a machine and when the pain struck him he dropped in a heap under the wheel and they had to put him in the back of the machine. Nothing is so extreme except acute pancreatitis. I have only seen two cases of pancreatitis but I do not believe the pain is any worse there.

I think everyone agrees that in these perforated cases you should not do a gastro enterostomy.

I want to ask whether ulcers are being cut out with sutures. I know a few years ago Draper of the Mayos was working with a purse string suture and tying it very tight to cut out an ulcer. We all had a number of these cases while I was there but our work was still experimental and I do not know whether it is being used now.

**Dr. F. W. McRae, (Atlanta):** Dr. Jones has presented in a very splendid way this most interesting subject. I was glad he mentioned the individual dropping. My experience has been that that is one of the things to look for in duodenal perforations. I remember Dr. Moses mentioned that as one of Dr. Atwood's diagnostic symptoms of acute perforating duodenal or gastric ulcer. In every one I have seen where I have been able to follow up the history it is the same story, they all drop where they are. The slower perforation is where there is a slight shutting off and the symptoms are not so complete. There are many of these cases. I do not think there is any doubt but what in a large majority of operations a gastroenterostomy should not be considered. Deaver has advocated that, but it is not generally accepted and it will not be because it is not a wise thing to do. We have all made mistakes in taking these gastric or duodenal ulcers for appendicitis. If you are mistaken and open the lower abdomen thinking it is appendicitis, and you find the abdomen full of pea soup fluid you know you are dealing with something other than a condition in the pelvis of the appendix. Then you need to extend your operation and get at the trouble.

Dean Balfour of the Mayo clinic is doing this work on those cases of indurated ulcer on the lesser curvature. The Mayos have practically adopted the Balfour technique and that is to dissect off and remove all ad-

hesion, and get at the ulcer, and then destroy the ulcer with a cautery and then enfold the suture to protect them in suturing. Rarely does a gastro enterostomy prove lastingly curative in cases of indurated ulcer along the lesser curvature but where a laparotomy must be done distal to the ulcer.

**Dr. J. L. Campbell, (Atlanta):** ... One feature I would like to mention and that is the precancerous condition of the stomach. In a very large majority of cases of cancer of the stomach at the Mayo clinic it was found these patients gave an ulcer history for a number of years preceeding the development of the cancer. In 1915, 13,653 people died in the United States of cancer of the stomach. Of this number something over 10,000 were men, showing that the great per cent. of the man power of the United States—so much has been said recently about man-power of the army—is being made inefficient, and yet this could be prevented if this condition were recognized and the proper procedure instituted.

In 1913, when the Georgia Surgeon's Club met in Atlanta I operated on a case which had practically the same condition which Dr. Jones mentions here, and it was so adherent to the gall bladder that it was impossible to resect the stomach. We made a diagnosis of malignancy, but later on the X-ray showed that this had practically cleared up. The man went on with a comparatively healthy career until a few days ago after a drunken debauch when he entered the Grady Hospital again with marked symptoms of a return of the condition. With rest in bed he was ready to be discharged in a few days and is comparatively well so long as he does not drink, but when he drinks he has a return of these symptoms.

**Dr. Walter Norton, (Savannah):** I enjoyed Dr. Jones' discussion very much, but I believe that all of the authorities have about agreed that the proper procedure in eliminating a duodenal ulcer is to close the ulcer in, the enfolding method, and then do a gastroenterostomy. At the Mayo clinic Dr. Judd and Dr. Mayo are excising the ulcers. They said that they got about 95% of cures by doing a gastroenterostomy, but by excising the ulcers they wanted to get 100%. They do not use purse string suture,

but they use the Tonnell suture. They cut out a small portion of the ulcer and begin to suture before the ulcer is completely cut out so that they have control of the hemorrhage at all times. I asked Dr. Judd particularly as to a procedure of a posterior gastroenterostomy after excising the gastric ulcer and he stated that they had decided in all cases this should be performed after a gastric ulcer is excised.

**Dr. J. W. Lanham, (Atlanta):** There is one feature I want to mention. Since the use of the X-ray we have gotten a good deal of information about infected stomachs following this operation. During a series of these cases we have learned something about the infection after this operation. As to what causes this infection, I am not prepared to say, that is the surgical aspect of the case, but a great many cases following a gastroenterostomy develop a vicious circle. That is demonstrated very clearly by study. I do not know whether it is due to doing the operation proximal or distal to the site of the ulcer. Dr. Jones can probably give us some information on that and I would be glad if he would do so. I have cases that have been operated upon at the Mayo clinic, some at Johns Hopkins and some at the University Hospital and some at the Jefferson. Of course I know they were in the hands of good surgeons.

**Dr. Walter Norton, (Savannah):** I would like to ask as to the leukocytosis after the preparation of a duodenal ulcer. I have been under the impression that with an overwhelming toxemia you do not have a high leukocyte count. I would like to ask Dr. Jones his experience in that matter.

**Dr. E. H. Jones, (Atlanta):** With reference to the inquiry of Dr. Harold I do not know whether the suture mentioned is being used in experiments.

With reference to the inquiry of Dr. Norton we are of course confronted with the question of a rapidly developing peritonitis whether it is a duodenal ulcer or not the action is the same. My impression is that a leukocytosis develops, but you quite understand that if the case is very light and leukocytosis does not develop the outcome is doubtful.

## SO-CALLED MARGINAL ECZEMA.

**Cosby Swanson, M.D., Atlanta, Ga.**

Saboraud was the first to point out the frequency of the parasitic infections known as marginal eczema and to successfully demonstrate the cause.

It is a disease confined almost entirely to middle life, being very rare in children or old persons. It is usually seen in healthy fleshy persons who are leading an active life. This is due largely to the fact that the organisms require moisture, heat and air to flourish. The disease occurs in both sexes although more often in males.

The character of the eruption varies according to the season, location, duration of the infection, susceptibility of the individual to the organism, and to secondary infection.

There are two clinical types of the disease, dry and moist. A patient may present both types at the same time or it may change from dry to moist or vice versa.

The dry type of the disease begins as a macular eruption. The lesion varying in size from a half inch to two inches or more in diameter.

They gradually increase in size and number several coalescing forming large patches. As the lesions increase in size they usually become pale in the center which gives them an annal appearance. The lesions are usually circumscribed with slightly raised borders which is due to the infection spreading from the edge. This form of eruption is very common on the perineum and inner surface of the thighs. It sometimes extends laterally over the groins, upward over the tubes, backward over the sacrum, in the axilla, about the breast of woman and in rare instances about the umbilicus. I have seen several cases in which at least half of the body surface was involved. In some cases the eruption became moist due to friction from the clothing, apposed surface of the skin and to pyogenic infection.

In tropical countries the process of the disease is much more severe in its inflammatory aspects. In the hot and moist seasons the inflammation from the active proliferation of the organisms, the heat, sweating and friction of the parts is so severe that patients are unable to go about.



The itching leads to scratching which usually causes secondary bacterial infection producing furuncles and other inflammatory conditions. During the cool season the condition partially disappears and in some cases completely subsides. When the patient goes to a cold climate all symptoms of the disease disappear only to reappear on returning to a warm climate.

Within the past few years Saboraud, Whitfield, Mitchell, Sutton, Ormsby, and others have demonstrated that the same infection that causes the dry lesions often causes a papular vesicular eruption which is the moist form of the disease.

This type of eruption is found on the feet, especially between the toes, at times on the hands between the fingers and occasionally on other parts of the body.

The lesions usually occur in groups and are deep seated in the beginning. The eruption usually begins from a central point of focus and spreads as in the dry form. Early in the disease the serum in the vesicles is clear later it becomes yellowish tinge. Within a few days the fluid is absorbed leaving a brownish spot. Later desquamation occurs leaving a red smooth shiny surface with scaly borders. The patches have a tendency to clear up in the center which give them a circinate appearance.

The eruption usually is succeeded by recurrences and on each recurrence the patches increase in size and number. In some cases inflammatory areas are formed with thick scales and crusts. This especially is liable to occur in those who are very susceptible to the infection. In some cases there is no tendency for the eruption to clear up in the center causing it to resemble eczema in many respects. It differs from eczema chiefly in that the borders are more sharply defined.

The eruption on the feet is usually confined to the skin surface between the toes and forepart of the plantar surface. In some cases it involves the entire plantar surface, the sides of the feet, the ankles and lower part of the legs. The activity of the disease between the toes is probably due to the warmth and abundant moisture of this region.

On the hands the lesions usually occur on the fingers and the palms. In some cases it

extends to the wrists, back of the hands and forearms.

So Called Marginal Eczema is caused by the epidermophyton inguinale organism or one of the allied groups. In the majority of cases a correct diagnosis can only be made by finding the fungus.

The fungus flourishes most abundantly in the depths of the folds of the skin and from thence spreads outward to where the folds separate. It does not attack the hair but lives on the epidermis.

The method described by Ormsby and Mitchell of examining for the fungus is very simple and gives a large per cent. of positive findings. This method briefly is as follows:

In the dry form of the disease curette the border of the lesion, place the deeper scales of the epidermis upon a slide then drop a few drops of a 15 per cent. solution of sodium or potassium hydroxide, over this place a cover glass and the slide is heated until the fluid boils.

In the vesicular form of the disease the lesions that are showing signs of absorption or those which are beginning to desquamate should be selected. In the older lesions the fungi will be found in greater number. The top of the lesion should be removed with a thin sharp blade, then inverted upon a glass slide and covered with a 15 per cent. solution of sodium or potassium hydroxide. Over this place a cover glass and heat the slide until it boils. Pressure is then applied to the cover glass, reheating and adding more solution as necessary until the tissue is pressed out into a thin smear. It is then examined with one sixth objective. The spores are found in chains, never in groups. They have a tendency towards a quadrilateral shape, and are somewhat loosely attached to each other. The chains of spores are interspersed with slender mycelial threads running in all directions.

Epidermophyton inguinale fungus resembles in many respects the ordinary ringworm fungi.

The disease is contracted usually in swimming pools, gymnasiums, bath tubs, toilets, barber shops, public wash basins, etc. The disease begins in the crotch perhaps oftener than elsewhere. The fungus falls down inside the clothing to the feet finding between the toes a suitable soil for the

growth. At other times the disease is transferred from one part of the body to another by scratching.

In the majority of cases, the differential diagnosis of so-called marginal eczema from other dermatosis is easy, especially after one becomes familiar with the general character of the lesions. The circinate character of the lesions must not be mistaken for psoriasis, certain syphilitic eruptions, the scaly seborrhoides, pityriasis rosea and eczema.

The lesions of psoriasis are usually covered with silvery scales. In psoriasis there are usually found characteristic lesions on the elbows and knees, that is pathognomonic. In syphilitic eruptions the lesions usually are polymorphous. In the majority of cases of syphilis there are other symptoms to aid in the diagnosis. In scaly seborrhoeic dermatitis the lesions usually are found on the face, neck and chest, which distinguishes it from marginal eczema. In seborrhoeic dermatitis there is usually seborrhea of the scalp and other symptoms to aid in the diagnosis.

Pityriasis rosea differs from marginal eczema in its distribution, character of eruption, etc. In pityriasis rosea vesicles never occur. Pityriasis rosea is symmetrical in development. Occurs in oval rather than in circular patches, has a characteristic tawny-yellowish color which is never seen in marginal eczema.

In eczema there is usually more itching and burning sensation, less defined borders, absence of a circular contour, coarser scales and more infiltration. The moist form of the eruption is often mistaken for vesicular eczema, and dyshidrosis. It is like eczema in that its onset is usually sudden accompanied by marked itching, burning sensation and usually occurring during the hot weather. In all eczematoid eruptions, a positive diagnosis can be made only after a careful examination for the presence of the fungi. One

negative examination should not be sufficient evidence to dismiss the case as nonparasitic.

The course of the disease is obstinate, persistent and subject to relapse. One attack does not suffer immunity. In the majority of cases the treatment of the disease is very satisfactory.

In acute inflammatory cases with oozing a soothing lotion should be applied until the skin becomes hard and dry in character. In the vesicular type of the eruption especially when it occurs between the toes and fingers, it should be painted with a 3 to 4 per cent. solution of nitrate of silver dissolved in sweet spirits of nitre every day until the vesicles disappear.

After painting it with the silver nitrate solution an ointment containing 4 to 6 per cent. of salicylic acid, 8 to 10 per cent. of benzoic acid, should be applied twice a day for from three to five days. The salve should be discontinued for three or four days and then reapplied for from four to six or more days. Should the salve irritate the area it should be discontinued and a soothing application should be applied until the irritation disappears.

When the eruption occurs on the body, back of the hands, forearms, upper part of the feet, buttocks, genitoerural region a 4 to 6 per cent. solution of pyrogallie acid dissolved in collodion should be painted on the patches every other day for from 8 to 10 days.

In some cases other preparations, such as tincture of iodine, 4 to 6 per cent. chysarobin ointment, ammoniated mercury ointment and sulphur ointment have been used with success.

My reason for presenting this paper is, this condition is more common than is usually supposed, and a correct diagnosis is necessary to its successful treatment.

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VOL. VIII

ATLANTA, GA., DECEMBER, 1918

No. 8

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Camp Zachary Taylor.

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## ACIDOSIS IN THE RELATION TO INFECTIONS OF THE AIR PASSAGES. A CLINICAL REPORT OF FORTY CASES.

By A. J. Waring, M. D., Savannah.

### Introduction.

Acidosis is a popular term applied by the average clinician to any case of nausea and vomiting of unknown origin in children. Unfortunately the physician of today is a poor student of Physiological chemistry, hence such terms as "Alkali Reserve," "Ketones," "Hydrogen Ion Content," "Carbon Dioxide Tension," etc., are terms that seldom flash into the brain pan with any very loud report. Much has been written and published in the past few years, but a large part of this accumulated matter is the theoretical, impractical, or somewhat chemically abstruse. At least to the general practitioner. This paper is an effort to condense some simple facts and discuss their relations to an unknown infectious disease, possibly intestinal La Grippe.

Acidosis is of course a condition and not

a disease, and such outbreaks as the one herein described are sometimes wrongly referred to as Epidemics of Acidosis. Whenever there are present in the blood and tissues acid bodies greater than the normal physiology displays, we have Acidosis. If these acid bodies are properly neutralized by the Alkali Reserve we have a compensated Acidosis with no patent symptom. Some such state of delicate balance must account for the ready susceptibility of isolated children to acid outbreaks, and the varying results obtained in metabolism wards with different children under similar hygienic and dietetic conditions. On the other hand, if the alkali Reserve is insufficient we have a metabolic catastrophe presenting the familiar clinical picture, usually a febrile of extreme emesis, Cyanotic hyperpnœa, acetone breath, Bromidism, etc.

A nearly constant finding is Ketonuria, Indicanuria as well. Ketonuria, however, is not necessarily proof positive of acidosis. Acetone is frequently found in small amounts in normal cases and conspicuously in some infectious diseases, pneumonia for example. On the other hand acidosis manifests itself in acute nephritis and diarrhoeal diseases



with an abundance of acid phosphates and no Ketonuria.

Many of the diagnostic tests require too much time and skill for the busy practitioner and a laboratory assistant is well nigh essential. The alveolar air tension method of Howland and Marriott depends for accuracy upon the physiological balance of the patient and the family. Though the simplest and the best method as yet employed it is undoubtedly far more satisfactory in the hospital than the private home. Sellard's test depends upon the amount of Soda Bicarbonate necessary to render the urine alkaline. Exactly how much alkali the patient absorbs who is the victim of excessive nausea? Occasionally also an osmotic disturbance, the presence of a profuse watery diarrhoea that is always alkaline in reaction nullifies the test. Torres has also proved that diet has a distinct effect on the amount of drug necessary to render the urine alkaline.

In true Acidosis the treatment, of course, depends upon the speedy rehabilitation of the alkali reserve, chiefly bicarbonate of soda. The indiscriminate use of this dry, however, is the unfortunate cause of not a few deaths.

When carelessly pushed by the zealous, Alkalosis results and some of the symptoms ascribed to acidosis in fatal cases are undoubtedly due to a very opposite condition. Roughly speaking the administration of the alkali should cease when the urine becomes neutral or slightly alkaline. The chemical features of acidosis have been ably discussed by "Rountree," "Howland," "Morse," "Marriott," "Van Slyke," "Cullen" and others. This paper is not intended to be a repetition or condensation of their excellent work.

Last winter in Atlanta, Ga., there was a severe outbreak of "Infectious Acidosis." The mortality was high, many children dying in from 24 to 36 hours. This year at the same time the outbreak occurred in Savannah, Ga., Nov. 20, 1917, to Feb. 1, 1918. There were scattered cases in Atlanta and many in smaller towns of Georgia and South Carolina within a radius of 150 miles. There was also a great deal of influenza prevalent at the same time—severe Coryzas and cases of acute bronchitis accompanied by fever and marked bodily discomfort.

#### **As An Accessory Etiological Factor.**

Our fall weather had been windy and clear and unusually cold with an atmosphere con-

stantly dust filled followed in December by dark and rainy days.

The following report is a clinical account of forty cases with 3 deaths. Laboratory findings and investigations were of necessity meagre. Necropsis were several times solicited and refused.

#### **Condition and Segregation.**

Rich and poor alike were attacked irrespective of environment and city district. In this series the greater number of cases existed on a stretch of three blocks—4 cases in one block, 3 in another, and one in the third block, all other cases were widely scattered.

#### **Ages and Sex Incidence.**

26 were boys and 14 were girls. To my personal knowledge 4 adults were attacked by the malady without mortality. The youngest patient was 8 months old, the oldest 10 years old. The severe cases with greater mortality occurred in children 1 to 4 years of age.

#### **Diet.**

The question of diet was manifestly not a causation factor. Some children came of poor parents and were underfed, some of well-to-do parents were fed on unbalanced diets, and some had been carefully watched and were ideally fed, many of the children subsisted on a condensed milk and carbohydrate diet with no cow's milk in the dietary, some were fed exclusively on cow's milk. The diet of one child, a fatal case of one year of age, consisted of cream of wheat cooked in milk, orange juice, zwiebach, and breast milk. Possibly one striking feature was the fact that no child fed on breast milk alone fell a victim to the disease. Some of the children had been indiscreetly fed the day before the attack began on cocoanut candy, banana, or nut salad, but in these cases, there was no visible evidence of indigestion and it seemed reasonable to consider the food question an effort on the part of anxious parents to seek a cause.

#### **Theory of Infection.**

True Acidosis is so closely related to the question of an unbalanced diet, an intolerance of fats accompanied by a lack of or intolerance to carbohydrates that the varied diets of the cases quoted eliminate this possibility of food causation with defective metabolism.

This so-called epidemic began and ended most abruptly, with a sick list of nearly 200 cases and about 15 deaths.

In every family where there was more than one child under 4 years of age, the writer always had another case in the same house in 12 to 24 hours. A significant fact that from the standpoint of infection. In one family a child of 1 year, another of 3 years, the cook and the maid all became ill in a period of 24 hours. The mother and the nurse remained perfectly well, eliminating the possibility of food intoxication.

Of great interest was the fact that only 3 of the 40 cases failed to show some infection of the air passages. 37 cases had various infections antedating the disease by several days croup, coryza, tonsillitis or bronchitis. In fairness it must be stated that at same time there was possibly several thousand children in Savannah suffering from infections of mucous membranes who did not have acidosis. Metcalfe, in his clinical report on a similar outbreak in Concord in November, 1915, makes the statement that 70% of his 100 cases suffered from respiratory disease.

A connection was appreciated by the medical profession at large in Savannah because of a loose terminology employed at this time that also revealed the perplexity of the physician in regard to the diagnosis. One frequently met with such terms as "Gastric Grippe," "Intestinal La Grippe" and "Grippe Meningitis," etc. At the present writing the early spring has produced the usual number of infections of mucous membranes but there is not a ease of the malady under discussion in the city today.

### Symptomatology.

Almost without exception a child previously well except for some mild catarrh began vomiting heavily and persistently during the night, often vomiting profusely before waking.

By daylight the child looked ill, with feeble pulse, pallid and clammy skin, and sunken listless eye. In the severe cases accompanied by restlessness, an intense thirst then ensued that once witnessed could never be forgotten. The call for water became a ceaseless iteration and the thirst was never slaked. At this point the mild cases gradually showed improvement to treatment and in 4 days were practically well. In severe cases the thirst lessened, the temperature

rose from 102 to 104 degrees, the abdomen became markedly distended and not infrequently a choleraic diarrhoea ensued that often ceased spontaneously in from 12 to 24 hours.

I have seen a child expel from the rectum at one sitting, without previous colon irrigations (to suggest retention of fluid) almost a quart of water, clear, odorless, and alkaline in reaction.

In fatal cases coma rapidly and insidiously appeared and when stuporous these children were frequently not flushed, the breathing was not hurried, and to the superficial observer the patient might appear to be in natural sleep. A distinctly different picture from that of acidotic coma. Some of the patients in this terminal stage exhibited carpo-pedal spasm, opisthotonos and frequently passed from one convulsion to another.

Clarke, in a report last year on the Atlanta epidemic before the Fulton County Medical Society, refers graphically to this tragic symptomatology:

Such symptoms I only saw in cases where bicarbonate of soda had been used without control, and I feel sure that not a few fatalities were due to alkalosis; a definite condition not as yet studied by the laboratory man.

Morse and Rountree both refer to this menace in imprudent alkaline therapy.

### Urine: 25 Cases.

20 showed Ketonuria in 48 hours; 5 showed no Ketonuria at any stage of the disease.

Rountree makes the statement that starvation does not produce Ketonuria for an appreciable interval. A case of tubercular meningitis in the writers private practice at this time remained completely comatose for 3 weeks and at no time to the 17th day did Acetone or diacetic acid appear in the urine.

### Report of Cases.

#### A Mild Case.

Baby M. Boy, 14 months, breast fed full term to 8 months.

Present diet: Cow's milk, Imperial Gram, soft hominy, orange juice.

**Present Illness:** Slight Coryza for 3 days. Vomited in sleep the night of December 14th. December 15th, frequent watery vomiting at first of food particles, later of clear water. Very thirsty and very sleepy. 6 to 8 watery stools, yellow and with very little odor. Gradual improvement. Perfectly well De-

cember 21st. Urine showed Acetone and Diacetic acid on December 17th.

Treatment: Initial Catharsis, Calomel, grs. 2. Kalak water in drams, 1 amount every 10 minutes, increasing as retained. Chlorotone. Colon irrigations of Bicarbonate of Soda. Barley and honey used for early nutriment, milk added to diet very slowly and after cereal decoctions.

December 16, 1917:

Baby B. 14 months; baby began vomiting night of December 16th, waking from a sound sleep. Perfectly well and lively night before. Bad attack of croup three days preceding. Had bronchitis in loose stage. Vomited steadily all night of December 16th. Early morning of December 17th, copious watery diarrhoeas began, without odor and color, markedly alkaline in reaction. Child first seen at this time in consultation.

Treatment (before consultation) Soda by mouth and by bowel.

On the afternoon of December 17th, child extremely distended, still vomiting, diarrhoea less, fast becoming comatose. By midnight of December 17th, child stuporous, pulse feeble, distension extreme. December 18th, third day, child's mental condition markedly improved, stupor had vanished, less thirsty, distension still marked. From this time till days of death 3 weeks later, temperature ranged between 102 and 105 degrees. Distension was a constantly present and formidable symptom, yielding only slightly to any treatment inaugurated, and then but temporarily. No vomiting after 2nd day. Extreme thirst in early stages lasted 24 hours. On 8th day urine began to show heavy amounts of albumin and casts. At time of death child quite aedematous, but urine never very scant until 3 days preceding death. Beginning from 6th day liver steadily enlarged in size until finally edge could be felt 5 cm. below costal margin. On 15th day child developed acute paratititis on left side near site of needle prints following hypodermoclysis. Mental condition unclouded until 24 hours before death. Leucocytes range between 15000 and 8000. Nasal smears, normal chemically and bacteriologically.

In last days of life tetanoid symptom marked U. C. Constantly Opisthotonos. Post Mortem examination unobtainable.

Previous history: Normal full term, breast fed. Diet at time of attack, breast milk, cereals cooked in cow's milk, toast,

broths, orange juice. Fine normal baby on day preceding attack, except for bronchitis.

Treatment: Gastric lavages with soda, colon irrigations of soda. Hypodermoclysis of normal saline 5% Bicarbonate of Soda and Glucose. Hot packs to abdomen, alternating treatment with ice cap to abdomen. Mechanical massages, cultures of Bulgarian bacillus.

Treatment, Medicinal: Calomel, soda, castor oil at intervals, hypodermic injections of Caffein Sodium Benzoate, occasionally strychnine.

Diet: Kalak water, followed by barley and honey, dilute malted milk, beef juice, brandy, chicken carbohydrate, occasionally little buttermilk.

This case and another quite similar, I feel sure, were longer cases of the same infection and presented a symptomatology that the writer has never seen before in diseases of children. The outstanding feature was the enormous distension that was never relieved but partially, accompanied by practically normal stools. In both cases the liver, evidently suffering from extreme fatty degeneration, increased in size until its blunt edge could be palpated at the umbilicus. These cases were definitely and distinctly not pneumonic, but the distension was possibly due to a toxic vaso-motor paresis as in pneumonia.

#### Initial Treatment.

(I quote from Morse). "In my experience the immediate and thorough cleaning out of the intestinal tract has seemed to have more effect on the outcome in those cases of acid intoxication secondary to infections or to diseases of the intestinal tract than any other single procedure."

This statement most emphatically applies to the writers series of cases. I would, however, emphasize the use of a chologogue cathartic for intestinal cleansing.

One of our local medical men treated many cases without mortality and used no alkaline therapy. He controlled vomiting as promptly as possible, vigorously administered calomel until the typical stools were exhibited, whether 2 grs. or 25 grs., of the drug proved necessary.

I have seen many references to the efficacy of calomel in Acidosis but as yet all writers have sidestepped a possible explanation of its efficacy. Possibly it spurs the liver onward to an increased excretion of toxins?



A further output of bile to combat intestinal toxemia by aiding in the digestion of food elements, fats particularly? It also aids in rectal elimination of toxins manufactured in, or excreted into the intestinal canal and vigorously wages war on antiperistalsis?

#### **Vomiting.**

Controlled by Chloretone 1 to 2 grs. every hour as indicated, or ereosote in mucilage acaciae M. 1, to ozs. 1, drams 1, every hour.

#### **Acidity.**

In dehydration hypodermoclyses or interperitoneal injections or infusions of normal saline and glucose seemed as effective as the use of alkali.

Colon irrigations of soda were used but rather without faith. Proctoelys is, I feel, is of little value here. The patients are frequently restless, diarrhoeic, and often after several hours in spite of a slow drip expel more fluid than they were supposed to be absorbing. Bicarbonate of soda, I now use with great caution and never in a dilution stronger than 1 to 50. I prefer a simple alkaline water such as kalak or celestin vichy, or a weak solution of Citrate of Soda—in this malady I believe boiled water is very nearly as effective.

#### **Diarrhoea.**

Morphine as a rule is a mistake. Diarrhoea usually ceases without interference in a short period, but dehydration should be vigorously combated by appropriate measures.

#### **Distension.**

Irritation, stupor, pituitrin and physostigmin, mechanical massage—catharsis.

#### **Tetany and Convulsions.**

Chloral bromide. Calcium salts. Hot packs, inhalations of oxygen. (Clarke.) )

#### **Conclusion.**

##### **Summary.**

(A) The term epidemic or Infectious Acidosis is incorrect and unfortunate.

(B) I believe that this malady is a specific disease dominated by a toxemia that is partially, but not altogether, acidotic.

I do not believe that it is an intestinal La Grippe—Pfeiffers Bacillus is not positively accepted as the causative agent of the symptom—complex called Influenza. As in Pneumonia there are possibly many bacteria that are causative factors.

Any febrile disease of moderate length

accompanied by bodily discomfort and catarrhal symptoms is styled La Grippe by the average clinician. The malady under discussion seems to me such a definite clinical entity that I believe it is produced by a specific organism.

(C) Isolation therefore should be seriously considered. Let us hope that at some future date a proper and intensive study will be made of similar epidemics.

(D) In treatment the prompt exhibition of calomel brooks no contradiction. Alkaline therapy alone will never cure many a serious case. Calomel alone with care in diet has already done so—unaccompanied by alkaline therapy.

#### **Discussion of Dr. Waring's Paper.**

DR. W. A. MULHERIN (Augusta): I do not know that I can add much, but I think the question he has brought up is one on which a little discussion might be of value. Dr. Waring is inclined to the idea that it is a specific organism. Many pediatricists coincide with him there, but it is hard to reconcile that idea with the fact that you get acidosis post anesthesia, after ether and get it associated with acute infectious diseases. And yet, I do believe it occurs like in his case. It is very mixed up with regard to the causal factor of acidosis, and I do not blame him for considering two or three in the same house due to a specific organism.

One thing you do not find written about these cases of chronic acidosis. We know that a child given fifteen grains of soda bicarbonate will turn the urine alkaline. I have cases where mild nutrition was the leading symptoms and the urine was acid. Fifteen grains were given and probably given three or four times a day. But I have given children soda bicarbonate for a month and never could make the urine alkaline.

With regard to the treatment, there is one thing about the treatment that should be emphasized, and that is to prevent acidosis. Give an anticipating treatment. Do not let the child get to a certain point in acidosis. What is the anticipating treatment? It is simply this—a little plan that a majority of the hospitals have adopted. When a child comes in with acute bowel trouble, pneumonia, acute bronchitis, we give it just enough soda bicarbonate to keep

the urine alkaline. Our mortality has been lowered considerably by this simple means. There was a time in a majority of cases when if soda bicarbonate had been given early the child could have been saved. I think that is an important thing to express in connection with this paper.

DR. L. B. CLARK (Atlanta): If there be a medical treatment which can be used during the existence of a so-called epidemic of this dread condition, which strikes more terror to the human heart than anything I know of, I have not heard of it. What we now term laryngeal diphtheria, known in former years as membranous croup, with its 100% mortality, did not plunge the parents into such gloom and did not produce the mental shock that occurs now when a diagnosis of acidosis is made, or when they suspect from incessant vomiting that it exists in a child. It was my misfortune, from one standpoint, from the number of pink slips I was supposed to sign, and good fortune in having made a study of this disease, to be in at the fight that occurred in Atlanta in 1916-17. I probably had to do with one hundred cases. The extremely severe cases at the beginning of this epidemic died without exception. A baby would take sick at night with incessant vomiting, I would see it in the morning, but in spite of everything we could do—whether they had treatment or not, the patient would die in thirty-six to forty-eight hours and in one case it lasted but twelve hours. The trouble is we do not know enough about it. It does not matter what has been written during the last three years, the most of it is theoretical. We thought we had the cause in Atlanta, but we did not.

DR. A. J. WARING (Savannah): I do not think Dr. Mulherin agrees with me in the idea I have about this particular epidemic. I think acidosis should be spelled with a small "a" instead of with a large "A." It is simply a complication occurring during a course of infectious disease. I think not a few of us have seen acidosis begin an infectious disease. I have seen it start a case of measles, where the child would have it for three or four days and then come down with measles and the same way with typhoid or pneumonia. I look at this sort of thing as one of the things that stand out—it is a symptom, is acidosis, but it is not fair to call the disease acidosis. The

ealome I think, is the most important part of the treatment and I always feel safer about a child after I have had two or three green stools. But the thing I want to emphasize is to not treat the acidosis as a disease, but realize that there may be an infectious disease of which acidosis is simply a symptom complex.

### MENTAL DISTURBANCES AND SYPHILIS.

By Lewis M. Gaines, M. D.,  
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versity, Atlanta, Ga.

The occurrence of mental disturbances is an incident in the development of neurosyphilis. Not very long ago in studying mental cases enormous stress was put upon psychological reactions, character of delusions, type of hallucinations, varieties of illusions and numerous other mental data. At present in dealing with any sort of mental disturbance, the first and most important task is the search for evidences of neurosyphilis. For practical purposes, we may classify insanity by establishing two primary groups: The group caused by syphilis and the group not caused by syphilis. The non-syphilitic group may be dealt with in any way most agreeable for classification purposes. The choice is a wide one. The syphilitic group is the one which now engages our attention.

Southard speaks of psychopathic material as "a concentrated essence of the most difficult problems of general practice." These problems are greatly simplified by the proven fact that syphilis may be the causative factor in practically any variety of mental disturbances. The character of the mental symptoms does not furnish the essential clue which is the therapeutic clue. To say that this case is dementia precox, and that case is mania, may satisfy the desire for attaching a name to each symptom group, but this is of little benefit to the patient. The first and most important thing to do is to determine the presence or absence of syphilis. How best can we determine in mental cases whether syphilis lurks in the nervous system? The determination is comparatively simple:

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First, Clinical evidences of neuro-syphilis:

Such evidences are practically limited to suggestive occurrences in the past or family history of the patient, eye symptoms, and anomalies of deep reflexes. Of these the eye furnishes the most suggestive information. Pupils irregular in contour, of unequal size, or which react poorly or not at all to light or accommodation proclaim alouditory diplopia are suspicious. However, it must be borne in mind that all clinical evidences may be lacking.

Second, Laboratory examination:

The blood Wassermann should be made, the spinal fluid Wassermann, cell count of spinal fluid and globulin estimation of spinal fluid be obtained. It must be remembered that a negative Wassermann in the blood by no means excludes syphilis. The spinal fluid may give the only clue. Thus, a man of 38 was brought to me from a North Georgia town in early winter. His symptoms were entirely mental and consisted in periods of noisy and irrelevant behavior, insomnia and confusion of thought. The clinical examination was entirely negative and the Wassermann on the blood negative. Attempts at lumbar puncture were at first frustrated, by the patient's lack of co-operation so that it was two weeks before the spinal fluid was obtained. During these two weeks he was completely disoriented, at times noisy and restless, and at other times mute. At all times he was inaccessible. When finally the spinal fluid was obtained, examination of it revealed a 4 plus positive Wassermann, 170 cells per cu mm, and a large increase in globulins. This patient's improvement dated from the first intravenous administration of diarsenol. He has been clinically well and at work now for several months, although his spinal fluid has not entirely cleared. The striking feature was the negative clinical examination, and the negative blood examination in a case of undoubted neuro-syphilis affecting the brain.

In further proof of the contention that a deciding factor in the classification of mental cases is the determination of the existence of syphilis, I am able to produce records of idiocy, imbecility, mania, melancholia, dementia precox, paranoia, many cases of so-called neurasthenia and cases presenting a medley of mental symptoms, all of which cases have as their etiological basis, syphilis.

A further question which now arises is

how shall the various types of neuro-syphilis be classified? Out of a confused mass of detail three principles stand out.

First, the most satisfactory classification is based on anatomic pathology and leads to the recognition of three types—meningeal neuro-syphilis, vascular neuro-syphilis, parenchymatous neuro-syphilis, and, secondly, the combinations and permutations of these three. Thus, we would recognize paresis in the vascular-parenchymatous group, since the lesions occur especially though not exclusively in the blood vessels and in the parenchyma of the brain.

Second, The lesions are of two main varieties from a pathological standpoint:

Inflammatory or exudative, and degenerative. A third "toxic" variety is possible. The exudative variety responds to treatment in a gratifying manner, the degenerative does not. These two varieties may and often do co-exist, in which cases improvement is variable.

Third. Mental symptoms or neurological symptoms depend upon the type of lesion (meningeal, vascular, parenchymatous or their combinations) the variety (exudative or degenerative) and the anatomic location in the brain or cord.

In view of the above statement, certain questions regarding general paresis are pertinent.

Our old definitions of paresis were poorly considered. Osler, for example, defines it as "a chronic progressive disease of the brain and meninges associated with psychical and motor disturbances, finally leading to dementia and paralysis." In view of this definition, if the disease did not progress or terminate in dementia or paralysis, it was not paresis. The truth is, we can not make this disease conform to such restrictions. With many others, I feel confident that no one can successfully differentiate parietic and-parietic forms of neuro-syphilis—no matter what the physical and mental symptoms or laboratory findings may be. The question of whether paresis is curable or not resolves itself into the question of what is meant by the term "paresis." If it is defined as essentially an incurable disease of the brain, certainly it is incurable. If it is the type or form of neuro-syphilis which is destined to terminate the patient's career, willy nilly, certainly it is incurable. Why give any treatment? Kismet! It is fate! Make the



patient comfortable and pray for the end. But what medical Nestor, what diagnostic prodigy is going to make the differentiation between the form which is to be paresis and that which is not to be paresis? Why not, tactily at least, disregard the old name paresis and recognize only cerebral syphilis? From such a disease some recover, some enjoy remissions, while others in the face of all treatment pursue a downward path. In spite of fatalities we treat other diseases, why not thus treat cerebral syphilis whether paresis is anticipated or not

I have now arrived at the object of this paper: Namely, to depreeate the attitude of hopelessness in the treatment of paresis, and to urge that all these cases of cerebral syphilis be treated intensively and persistently in spite of failures and discouragements. No medical progress has ever been made by adopting an attitude of therapeutic pessimism.

Paresis is not a rare disease. It is estimated that in New York state approximately 1000 persons die of it every year—almost as many as die of typhoid fever in a year. Are we to attempt no therapy, make no effort? I wish to emphasize the fact that it is worth while to institute vigorous, and prolonged intensive treatment in these cases. Cases are constantly being reported which conform to the paretic type in all their symptoms and signs, and which recover for a longer or shorter period under such intensive treatment. The question of remissions in untreated cases is readily disposed of by the interesting and valuable observation of Southard. Says he: "We should strongly object to any account of paretic neuro-syphilis which should insist that its necessary outcome is fatality within a term of years. . . . If nature can stop a paretic process, why cannot man do as much? Can it be alleged that our own apparent therapeutic successes and those of others are merely curious examples of coincidences, namely, that remissions have chosen to occur precisely when therapy was systematically applied? The percentage of therapeutic successes with modern intensive treatment, wherever it may ultimately stand, is already too high for this hypothesis of fortuitous remissions." In proof of this statement Southard quotes 300 untreated cases of paresis which he reviewed and could find but 5 self-supporting and 10 more in normal-looking remissions, while in 200 treated cases, 50 were capable of self-

support. I myself have under observation a case presenting the typical symptoms and signs of paresis, who after intensive treatment has been at work for more than nine months and has recently been promoted.

I feel that the hopeless attitude adopted by many asylum physicians is partly due to the fact that a large proportion of their cases arrive late, when degenerative changes of such magnitude have occurred as to preclude improvement. Even here, however, there are cases in which symptoms result from exudative, rather degenerative changes in the brain, and which intensive treatment might improve.

Intensive treatment does not include those half-hearted rare injections of salvarsan or its substitutes with perhaps, mercury pills and potassium iodide. By intensive treatment is meant intravenous salvarsan or reliable salvarsan substitutes, once or twice a week over a long period. It should be given until there is improvement, or until 20, 30 or 40 doses have been administered. One of Southard's cases received 60 doses and recovered sufficiently to return to work for six months at the time the report was made. Some cases are also benefitted by intra-spinal therapy, and some by the associated use of mercury and potassium iodide.

#### Conclusions:

First, Syphilis may cause practically any type of mental disturbance. The old idea that a case of paresis must possess delusions of grandeur can no longer be entertained. Clinical symptoms and laboratory findings are the best tests to be applied in almost all cases of mental disorder.

Second, In mental cases with evidences of syphilitic infections probably all of them become impaired as the result of syphilis. There may be contributing other causes, but syphilis is the efficient cause.

Third, Having established syphilis as the cause of a given case of mental disturbance, a gross injustice is perpetuated upon the patient and his family by consigning him to paretic hopelessness. Rather, he should be thought of as a case of cerebral syphilis, who may be benefitted by intensive treatment and such treatment should be persistently continued as long as there is any possibility of improvement. Some patients have apparently recovered after many months of such constant efforts in their behalf.

711 Hurt Building.

**Discussions of Dr. Gaines' Paper.**

DR. GEORGE L. ECHOLS (Milledgeville): I want to thank the doctor for this paper. Dr. Sayer and myself of Milledgeville, were preparing a paper along this line, but unfortunately he had to go into the army and my work has been made a great deal heavier so that we did not get it ready. Dr. Gaines speaks of the use of the word paresis. It is difficult to say just what paresis is. It would be better to speak of it as cerebral syphilis and it might be better to speak of it as cerebral spinal meningitis.

One other thing, if you have a case that is diagnosed as paresis or of the cerebral spinal cords in which you have positive findings in the spinal fluid, treat that case—treat that case. The literature is full of different methods of how to treat it. Treat that case, and some of them will get better and some may get well and then you see to it that he is so safeguarded that in no instance can he have a sudden recurrence of his insanity and do a great deal of harm.

DR. E. S. OSBORNE (Savannah): I think the point that Dr. Gaines made that none of these cases are hopeless should be stressed and I do not believe it can be stressed too strongly. Why should we throw up our hands at these cases when the literature is full of methods of the various men who are having experience with these cases which show that many of these cases will at least improve and not a few of them are cured. Originally we believed that mercury and the iodide was the only treatment practical for syphilis. Then our arsphenolamin was given to us and mercury and potassium iodide was discarded, but they found these cases did not do so well, they had eye symptoms, optic troubles, syphilis of the central nervous system in a few years and they found that absolutely they could not get along without mercury and the iodides. The best men according to my reading, have stated that not only should we not discard mercury but that we cannot treat it insensitively without mercurial treatment. I remember a number of years ago the researches of Shamberg in regard to the spirochete in the blood and he found of course that mercury did not kill the spirochete, but salvarsan did. Recently Kolmen and Shamberg have been experimenting with calomel inunction and I notice they now claim that calomel can be introduced as well by means of inunction as any mercurial preparation, and

that there is no necessity of using mercurial ointments.

DR. W. B. EMERY (Atlanta): Dr. Gaines' paper has helped me a good deal this afternoon. There are so many degrees in this condition that we cannot say in any one case that that man has paresis, therefore we will leave off treatment.

I know a good deal of Dr. Gaines' work and he is doing a wonderful work in syphilis of the brain and nervous system, and especially have I been interested in his final work in which he used salvarsanized serum for this condition. When this first came out for some reason I was against it—perhaps because I was too lazy and did not have the inspiration to do these spinal punctures. But I followed it up in my lazy way and I saw demonstrated in some cases where a man had as many as forty or fifty doses of intravenous injections that did not have any result, but when that same patient had intraspinal injection of salvarsan it began to clear up right away.

DR. LEWIS M. GAINES (Atlanta): I was led to bring this matter before you by a remark made some months ago by a friend of mine who is connected with a state institution in the south. In the course of conversation he said that he thought that the medicine which was used to treat paretics might as well be thrown in the sink. I think these cases are certain to be helped in some measure. Let me sketch what happened to one patient. This patient, whom I saw last summer, had appeared to have paresis, at least he had cerebral syphilis. That patient went back to his home and was later sent to an institution a long distance away where he received one dose of salvarsan intravenously and then during several months he remained there he was given the iodides and mercury pills. He went down mentally, he became filthy in his habits, his appetite became enormous, he got fat and heavy and lazy, his mind became dull, he had delusion of the grandiose type—a very suspicious case, especially when the spinal fluid showed a 4-plus Wassermann. Becoming dissatisfied with his progress he was brought to Atlanta and we have given that man a weekly dose of diarsenol over a long period of time. For a long time there was little change, but gradually one after another, he began to drop some of these mental symptoms, and at the present time I doubt if any of you, with expert examination, could detect any thing wrong whatever.



## THE PROPER ROLE OF SURGERY IN DIGESTIVE DISTURBANCES WITH ILLUSTRATIVE CASES.

C. W. Roberts, M. D.

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Surgery, as a weapon with which to combat the misery, common to the human race resulting from digestive disturbances, has arisen from a position of obscurity to a high rank in the estimation of all enlightened medical men.

The surgical profession ever holds fresh in its memory the large part played by the pathologist, in laying firm the foundation upon which modern surgery has builded its store house of knowledge. This generation, however, has witnessed a forward step in gaining useful information, over that employed by our brethren at the post-mortem table. The scene has now been transferred from the autopsy room to the magnificent environment of the modern operating amphitheatre, where a constant stream of living pathology is daily reviewed and moulded into information of first value. The ante-mortem examinations of the surgeon has enabled him to make observations during the early stages of disease before initial lesions are obscured by secondary complications and terminal infections. Thus, the theories formerly held by the profession, based upon the observations of the pathologist at the autopsy have undergone radical changes and in no instance has this been more noteworthy than with reference to diseases commonly spoken of under the term, digestive disturbances.

Diseases of digestion have long been looked upon as purely functional disorders of the stomach, to be treated by medical measures. They are now acknowledged to be, when chronic or recurring, caused by organic changes in the stomach, duodenum, gall bladder or appendix, and relief from symptoms can only be secured by surgical correction of the anatomic lesion.

Notwithstanding the fact that there was a rapid spread of this innovation, all over the country, and a lot of needless and harmful surgery practiced, before time had served

to sort out the cases requiring surgical intervention from those which should have been discarded in the name of good surgery—the student thus venturing too far in the slowly advancing light of a new science, as has occurred so often in the past when some new epoch making discovery was made—surgeons now everywhere, profiting by the failures to cure all cases by operative measures, have inaugurated a process of careful elimination of the class giving a high percentage of failures, when subjected to operation, and have finally fixed in its proper place, surgical procedures directed at the relief of dyspepsia.

With the failures of the past to guide us and the pathology revealed by numerous exploratory laparotomies, performed on sufferers from indigestion, we are now able to classify these cases and offer surgery as a means of cure, or advise adversely, as the case may be. Certainly the time has already arrived when no physician worthy of his hire, should treat patients over long periods of time, without requiring a thorough examination at the hand of an expert internist. Sufferers from chronic digestive disturbances or frequently recurring indigestion, should be looked upon as prospective surgical cases, until thorough examination has proven otherwise. Unless this view is accepted by the profession generally and acted upon, we must continue to suffer the remorse that comes from unrecognized cancer of the stomach—a reproach to the medical profession that has too slowly been obliterated, even with the news facts impressed almost daily upon us. Unless we cease to look upon indigestion as an entity and recognize it in its true sense—that of a non-entity—a cloak to cover up the real pathology, a mantle which hides a multitude of the doctor's sins and prevents the true light of science from being turned upon the real cause of the distress—we must continue to suffer from the criticism that falls upon the physician when stomach or duodenal ulcers perforate and the patient is hurled into an untimely grave by hemorrhage or sepsis.

Aside from these spectacular end-results of unrecognized digestive diseases, there is an ever increasing class of people rendered unfit for their place in life by gall bladder infections, various forms of intestinal adhesions, preventing the proper functioning of



the intestinal tube and from that most common disease of the abdomen, appendicitis, or some pathology of this region preventing the normal activity of the ileo-cecal valve.

The patient with incurable stomach cancer or perforated duodenal ulcer is rushed to the surgeon, as he should be—but too often the golden opportunity for service of lasting nature, has fled. The plea now made by the forward-looking surgeon, is for an early recognition of the real pathology back of the crying stomach. If the mind of the profession can be thoroughly aroused along this line, if every chronic sufferer from digestive disturbances can come to be looked upon as a potential cancer case, or as ulcer case, or gall-bladder or appendix case—all yielding to surgical procedures for palliation or cure—then the end-result of these neglected diseases, now so often operated upon with such discouraging mortality and all-too-unsatisfactory lasting results, will largely cease to be seen, and more and more of these cases, discovered by the alert practitioner who applies with unbiased mind, this new gospel, will be returned to useful and happy lives.

In a paper read before this association some years ago under the caption, "The Surgical Treatment of Dyspepsia," this same process of reasoning was advanced. I must, therefore, apologize for again speaking to a subject that may be looked upon by some of my hearers as stale. However, so much impressed am I with the truth herein propounded I want to repeat a statement made in the earlier paper, culled from the writings of the Mayo Clinic, from whence has originated so much of the knowledge that is valuable in this connection, a clinic that has forced us to accept its views because, having refused our patients the relief which comes from surgery, we have found them in this or a similar clinic getting rid of their pathology and with it their digestive trouble—"Given a patient of long standing digestive disturbance it would seem to me that the chief end of service to that patient had been obtained, when the necessity for surgery has been realized and the patient referred with a diagnosis of surgical abdominal trouble."

Now, what should be the attitude of the medical man to this class of sufferers? As freely confessed above, all are not curable in the hands of the surgeon, but all should be given the benefits that may come from

a painstaking examination in the hands of an expert internist. To wait for the disease to become self-evident is to wait for the disastrous results seen in late gall-bladder infections operations for the removal of cancer of the intestinal tract, or for drainage in perforations from ulceration, not to mention the misery and invalidism that are borne by this large group of sufferers, while they blindly wait for some surgical emergency to turn on the light which reveals the real cause of their ill health. Would not fairness to the patient and surgeon dictate an early reference of the case for investigation? The spectacular surgical results are seen, not in the cases forced into hospitals for late operation, but in the class whose pathology is recognized while it is yet simple gall-stone or cholecystitis, duodenal ulcer or benign pyloric stricture, chronic appendicitis or adhesive bands, crippling the activity of a large or small bowel. It is this neglected class that needs our attention. It is this class that will rise up while we and while they live, and call us blessed, if we will but bestir ourselves and give them the advantage which the physicians' creed dictates and plain justice demands.

With the aid of the X-Ray and a careful history—provided there is intelligent interpretation of both, we are able to select the individuals who may be offered with a reasonable degree of certainty, relief by surgery. Others are referred to the medical practitioner for treatment. The day is fast breaking when medical men and surgeons will walk together in their efforts to cure disease. Already the co-operative efforts of both are seen in well organized clinics and hospitals. We should stop thinking of patients being medical to the exclusion of the surgeon or surgical to the exclusion of the medical man. So, it has become with the modern handling of gastro-intestinal diseases and surgery is now a faithful ally of the successful internist to which he refers his patients for operation, and then directs their after care, teaching them how to live to prevent recurrences.

The proper role of surgery, in digestive disturbances then, is not a cure all for every sufferer, but an indispensable means to the successful management of this large class of diseases.

The essential role that surgery plays in the successful treatment of the various forms

of digestive disturbances will be further impressed by a brief review of a few cases, taken from my records.

Case 1. W. D. N. Age 28. Leading complaint, indigestion of several years standing, progressing slowly until some year ago when vomiting became a troublesome complication. Emaciation followed and the neighbors looked upon him as a consumptive. Thorough study with the aid of the X-Ray, test meals and history, sent the patient to seek relief from the surgeon. At operation, a chronic ulcer of the pyloric antrum with associated induration, blocking the pylorus, was found for which a posterior gastro-enterostomy was done. The immediate results were relief of all symptoms, a gain of 30 lbs. in weight in two months and a return to full diet and hard labor. Several years have elapsed and he remains well.

Case 2. G. M. C., age 2. Chief complaint recurring attacks of indigestion accompanied by distress in the stomach two hours after meals, by vomiting after some meals, and often relieved by taking food into the stomach. Intervals of complete relief to be followed by return of all symptoms. Duration of trouble about eight years with increasing severity for past few months. Investigation convinced the internist, in this case, Dr. Niles of Atlanta, that operation was necessary. Exploration revealed an ulcer of the duodenum, causing puckering of the anterior wall with infringement on the lumen of the pylorus. Gastro-enterostomy was done as an operative procedure to give drainage and easy access of foods from the stomach into the bowel. Immediate relief followed with thirty-five pounds gain in weight in ten weeks and a return to normal activities and a general diet.

Case 3. S. O. D. Age 33. Leading symptoms referred to the stomach. Constant annoyance after taking food. Slight or no food relief. Frequent cramps in stomach after eating. Much gas belched and a feeling of upward pressure in the stomach. Duration as long as can remember. Well nourished and healthy appearing. Exploration advised. At operation stomach and duodenum were negative, gall-bladder imbedded in mass of adhesions, but free from stones, appendix bound down by numerous adhesions. Appendix removed and all adhesions released. Gall-bladder drained. Result is told in a re-

cent letter stating that after the first few weeks there had been no further symptoms, that I am feeling fine, eating without annoyance and enjoying life. This patient paid his bill before leaving the hospital and hence his statements may be taken as expressing the truth.

Case 4. W. L. H. Referred by a prominent internist for operation. Leading complaint stomach trouble. Loss of weight, loss of appetite, energy and lease on life, dyspeptic looking. X-Ray investigation appears to rule out ulcer. Duration of trouble fifteen years. Been to see various doctors for treatment for indigestion. At operation the stomach and duodenum are found normal, the gall-bladder free from adhesions and apparently normal. The appendix is imbedded in dense adhesions and the cecum is so bound down that it would seem practically impossible for it to properly perform its function—that of vomiting its contents into the transverse colon. Appendix removed, adhesions released, abdomen closed. Patient reports after four months that symptoms are gone, life looks and seems better—25 pounds gain in weight and satisfied with life.

Case 5. Miss M. Had appendix removed seven years ago because doctor said it would cure her indigestion. Symptoms have persisted as before. Now looks dyspeptic, feels bad, eats little because it produces cramping in the stomach. Has gas and constipation. Referred for operation after thorough study by a good internist. At operation nothing was found wrong with the upper abdomen, but there was a typical Lane's kink about four inches from the ileo-cecal valve, practically blocking this passage. Appendix was not evident, but might as well had been left, at the prior operation, because relief quickly followed the release of this band of adhesions, and the patient reports that her trouble is gone.

Case 6. M. W. W. Age 36. Complains of pain in the stomach of periodic character, and some ten years duration. All the time, every day has some discomfort soon after meals. Stays bilious all the time. Has to take lots of purgative medicine to stay up. Has had typhoid fever with good recovery. One or two attacks of acute indigestion. Has liver spots. Mother of three children. Exploratory operation advised. Said to have pellagra and been treated for same by home-



doctors. Comes hunting somebody that will find out what is the matter. Tired of taking indigestion medicine without getting better. Seen by a student of medicine, often called an internist or a diagnostician. Referred for operation with diagnosis of gall-stones. At operation a hundred or more stones removed with the badly infected gall-bladder. No ulceration. Appendix removed, but apparently normal. Rapid recovery from operation. Now, three years since operation, and a report says: "I am better than I have been in years. Have practically no stomach trouble, have gained greatly in weight and have a new soldier for Uncle Sam. Have no further cramps in the stomach, have lost my liver spots and dingy complexion."

Case 7. A. H. J. Age 52, male. History of several years indigestion. Has been treated by various doctors. Would be better and then worse. Trouble has progressed rapidly in past six months. Is now emaciated and weak. Vomits food. Has palpable tumor in epigastrium. X-Ray shows filling defect in antrum of stomach. Diagnosis—Cancer following ulcer, based on history. Advised to have operation. Exploration revealed large infiltrating mass in pyloric end of stomach, involving two thirds of the stomach and extending to the liver. Thought to be cancer, but inoperable. Closed without effort to remove. Result—death in two months from starvation.

This case is mentioned to stress the disastrous results resulting from neglect of chronic stomach trouble. It seems justifiable to look upon this as a case of ulcer, producing symptoms over many years and finally degenerating into a cancerous lesion. I would further stress the fact as mentioned earlier in this paper, that patients are too often brought to the surgeon for help, when the time for effective surgical service has passed.

### Conclusions.

Persistent or recurring indigestion is not a condition to be treated medically to the exclusion of surgery, but is largely due to anatomical lesions of the stomach or adjacent viscera, yielding readily when this error is corrected.

All patients suffering from digestive disturbances, who fail to get relief after a reasonable course of medical management, should have the abdomen opened, even if

the operation is in the nature of an exploration.

While the stomach is the mouth-piece, from which the symptoms appear to originate in most of the cases, the lesion will not be found in this viscus, but in nine cases out of ten, in the duodenum, gall-bladder or appendix.

In the name of good surgery, gastro-enterostomy should be reserved for the cases that show definite lesions in the duodenum or antrum of the stomach, and should never be performed as a clinical test or as a last resort measure. Pylorospasm yields only to the removal of the irritation which produces it.

### DISCUSSION OF DR. ROBERT'S PAPER.

**Dr. J. T. Rogers, (Savannah):** I was glad to hear Dr. Roberts say that the surgeon and the medical men have to work together. Neither one can get along without the other; but we must remember that the most important thing in the practice of medicine is, above all things to know absolutely in so far as possible what the trouble with our patient is. After this is done—and it may take days to find out the real condition of the patient—if we find gall stones or chronic appendicitis there is no need to wait for the medical man but take the patient to the hospital and operate. If he has ulcers he should be put first on medical treatment and given a reasonable time to show whether this treatment will relieve him, providing we can assure ourselves that the ulcer is not undergoing a change from a simple ulcer to a cancer. That is a point of danger with we medical men—we may prolong the medical treatment until the patient has gone too far to be helped by surgery.

**Dr. Walter Norton, (Savannah):** I agree heartily with the doctor's idea as to the results of surgery in this particular field. Dr. Ochsner of Chicago is one of the greatest surgical clinicians in this country, he has done great and original work in surgery and his opinion must be taken into strict account. In his 1917 year book he set forth the fact that, after a diagnosis of gastric or duodenal ulcer has been made, any therapeutic measure other than surgery is but palliative—expense in lives. That is taking a very original view of the treatment of gastric and duodenal ulcers, but after a



man has operated upon a few of these cases and sees the very rapid and happy results which are obtained from clean work on the stomach and its neighborhood with complete disappearance of the digestive disturbances, we must give credit to the men who have led us to think this way by original work in this field—such men as the Mayos, Ochsner, Smithies, and many others. If a posterior gastroenterostomy is properly done the post-operative dangers are almost nil. Mortality is very low, about 2½% and the cures about 95%. I believe in young people we ought to give them a chance with medical treatment; give them a good chance with the medical men and if they do not cure these patients in a reasonable length of time, put them on the operating table, excise the ulcer and give them a chance for their life and for health.

**Dr. F. P. Norman, (Greenville):** In a few instances where we do not get satisfactory results from a properly performed gastroenterostomy, what is this attributed to

**Dr. C. W. Roberts, (Atlanta):** I think the concensus of opinion at the present time is that the bad results come in that class of cases upon whom a gastro-enterostomy should never have been done. I believe surgeons are getting together on that question and not doing a gastro-enterostomy until a definite reason for doing it exists. It should not be done simply because they have had a hemorrhage of the stomach, but should be done only in cases where there is a definite ulcer that can be seen or that can be felt. In other words there must be a sufficient amount of induration to make it unquestionable that there is an ulcer present. If we go blindly on the clinical history of ulcer we will get bad results. Probably the lesion was not in the stomach at all.

I have tried to make a very earnest study of this question of dyspeptic disturbances. It is my conviction, after having studied the question closely throughout the East and the middle West, that there is only one thing to do with any individual that suffers from stomach indigestion and that is to make an exploratory laparotomy. It is all right to make a diagnosis if you can, but often complications arise which make it impossible to cure the patient. There seems to be no valid reason why a patient with

returning chronic indigestion should not be subjected to an exploratory incision to see if the trouble really exists. In my experience in this line of work I have refused to do a gastroenterostomy more often than I have done it. I think it is very unsafe for a physician to decide in advance that he is going to do a gastroenterostomy. He should make his incisions and investigate it and do whatever the lesion calls for and nothing else.

### THE DUCTLESS GLANDS IN RELATION TO THE EYE.

A Paper Read By Dr. Elton S. Osborne, at  
the Medical Association of Georgia,  
April 18, 1918.

The ductless glands are intimately associated morphologically and physiologically with the sympathetic nervous system, in fact constituting a part thereof; it is through this system that the emotions find expression. Ever since the days of Beaumont the profound influence of the emotions on all bodily functions has been appreciated, his classical observation that worry, fear and anger diminishes and at times absolutely suppresses the secretion of the gastric juice, the mucous membrane of the stomach at times becoming red and dry and at times pale and moist showing the effect of emotions on the vaso motor organism of the stomach. Then beneficent emotions, love, hope, faith, courage, promote anabolism building up the cells of the body, whereas anger, worry, fear, promote catabolism or a tearing down. Our psyche, our emotional state or state of feeling is to a certain extent dependent on the ductless glands; we see the frightened stare or the anxious, unsteady gaze of the patient driven by hyperthyroidism, we see the listless, expressionless, lack of animation in the gaze of those deprived of sufficient thyroid secretion, we see the profound emotional manifestations of the alteration in the sex gland secretion at puberty or its absence in the castrate, there is the quiet mentality of the pituitary disturbances and the depressive mentality of the tetanic patient in the disturbances of the parathyroids.

The ductless glands profoundly influence

metabolism the pancreatic hormone, adrenalin, the thyroid and pituitary body regulating carbohydrate metabolism; the thyroid enormously influences protein metabolism, the parathyroids and possibly the thymus governed by the ductless glands; every cell in the body requires thyroid stimulus to reach its morphological perfection and when thyroid extract is deficient the carrying away of waste material is interfered with and there accumulates mucus, fat and other waste material forming firm oedematous infiltrations. It matters not what our particular field of medicine is, whether it be ophthalmology or any other branch we cannot help but recognize the profound influence of an agent with such a far-reaching effect on every cell in the body.

In treating obscure ocular conditions the physician of today be he specialist or general practitioner who does not consider general metabolism has not done his full duty to his patient or himself. Disturbances of the pancreas and parathyroids can alone cause cataract; the exophthalmus of hyperthyroidism gives this condition its name; the pituitary body enlarges during pregnancy sometimes two and one half times its normal size; Reuss has described repeated temporary blindness from this cause: The various opacities in the eye or the low grade inflammatory conditions occurring in those individuals with a decidedly unstable nervous equilibrium, or in women with pronounced dysmenorrhoeic distress, or in those showing great variations and fluctuations in the body weight, or in women when the increase in the thyroid that normally occurs during pregnancy leads to a slight evidence of hyperthyroidism, or in women when the increase of the pituitary that normally occurs during pregnancy leads to a slight manifestation of acromegaly, or in those that strong emotional excitement leads to glycosuria, in these cases we should ever bear in mind the possibility that the internal glands may be at fault through a disturbance of metabolism.

The eye is intimately connected with the sympathetic and with its antagonist the so called autonomic nervous system; this division into sympathetic and autonomic is somewhat arbitrary but is based on a difference of function the two systems being physiologically antagonistic to each other; this duplex arrangement exists in all the organs, glands and tissues of the body, the sympathetic

stimulating and autonomic inhibiting, in the heart for instance there is the sympathetic innervation through the accelerator nerves and an autonomic inhibition through the innervation of the vagus: The sympathetic supplies the iris and dilates the pupil, its antagonist that portion of the third nerve which contracts the pupil is really a part of the autonomic system, as the axis-cylinders are interrupted in the ciliary ganglion making it analogous to the pneumogastric the great inhibitory nerve of the thorax and abdomen: This innervation plays an important part in supplying the aqueous humour and in maintaining the normal intra-ocular tension of the globe. The eye on account of its intimate connection with the sympathetic is one of the principal means by which the emotions become manifest "An eye can threaten like a levelled and loaded gun or can insult like hissing or kicking or in its altered mood by beams of kindness it can make the heart dance with joy."

There is one important feature that will come more and more to the fore and that is the matter of the defensive ferments of Abderhalden; the formation of ferments in the plasma for the splitting up of alien proteids; these ferments are capable of exact demonstration: In pregnancy placental tissue which is abnormal to the plasma is circulating in the blood: Abderhalden made the discovery that the serum of the pregnant woman always contains ferments that digest placental tissue, so delicate is the test that these ferments were demonstrated in the blood eight days after conception. Various investigators have applied the Abderhalden reaction in certain conditions of the ductless glands, Lampe found that the exophthalmic goiter would digest both thyroid and ovarian substance; Bauer found that in endemic goiter the plasma digests thyroid gland; Abderhalden found the same thing in the case of myxedema; when this subject is properly investigated we may have serological tests for the overt activity or pathological states of the ductless glands.

The symptomatology of exophthalmic goiter comprises three cardinal symptoms. tachycardia, enlargement of thyroid gland and exophthalmos, of the three tachycardia is the most constant and is the first to appear, among the lesser symptoms are tremor, nervousness, depression, sweats, emaciation, weakness, loss of hair, conjunctivitis and



lachrymation; in the Mayo series the order of onset of the important symptoms were, 1st, Cerebral stimulation, 2nd, Vaso-motor disturbances of skin, 3d, Tremor, 4th, Mental irritability, 5th, Tachycardia, 6th, Loss of strength, 7th, Cardiac Insufficiency, 8th, Exophthalmos: The four cardinal eye signs are exophthalmos, Grafe's, Stellwag's and Moebius or the weak convergence sign. In one driven by hyperthyroidism we see the frightened stare, the anxious unsteady gaze, the warm moist hand, rapid pulse, unrest and haste indicative of increased metabolic changes, a stimulation of catabolism, a tearing down of the cells of the body.

The tendency to simple goiter is greater than is usually supposed. Marine examined 5,000 school-girls in a city near the great lakes and found 56% with enlarged thyroids: the efficacy of iodine in these conditions of thyroid hyperplasia is generally admitted, the disease has been prevented in the hatcheries of brook-trout by small amounts iodine added to the water; sheep growing in Michigan has been converted from a hopeless to a successful undertaking by feeding salts containing small quantities of iodine. Analyses of the hyperplastic glands show a deficiency of iodine and the gland takes iodine with avidity; according to Marine wherever thyroid hyperplasia has been encountered it has yielded to iodine therapy.

In conclusion I would like to say a few words concerning the administration of the glandular extracts and preparations; we are dealing with potent agents that show certain definite phenomena; the cases for their administration should be carefully selected and as the indications for the use of an extract is distinct its use should be restricted to these conditions; we should be sure to use a comparatively fresh preparation made by a responsible concern; desiccated thyroids should be standardized as to its iodine content and should contain not less than 0.17% or more than 0.23% of idoine in thyroid combination: All glandular extracts affect blood pressure either raising or lowering it, there is great necessity of constant supervision of the blood pressure in patients taking these agents all glandular extracts affect metabolism and it is necessary to carefully ascertain any fluctuation in weight.

## A PRACTICAL DISCUSSION OF DIABETES AND THE ALLEN TREATMENT.

By W. W. Blackman, M. D.

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Diabetes Mellitus is now twice as prevalent in the United States as in 1900. These figures, discouraging on their face, are more than balanced by the fact that, during the past five years, Dr. Frederick M. Allen, of the Rockefeller Institute Hospital, and his followers have been demonstrating a really satisfactory system of treatment for this important metabolic disorder.

Statistics from the Mass. Gen. Hospital show that the mortality from diabetes has been reduced in 1917 over 1913 from 28 per cent to 6 per cent by the methods inaugurated by Allen. This advance in 4 years is unparalleled in medicine and should impel physicians everywhere to master and utilize this therapeutic prize.

Authorities now agree that diabetes is a disease in which the normal utilization of carbohydrates is impaired, in consequence of which dextrose is excreted in the urine, this impairment being due to the deficiency in the internal secretion of the Islands of Langerhans of the pancreas. Joslin unqualifiedly states that if the diabetic patient could secure a new pancreas he would be cured. Obesity, diet excesses, heredity and mental strain are recognized contributory causes, obesity easily leading.

Allen holds that dextrose exists in the normal body in a state of colloid combination; as a colloid it is utilized by the tissues, and, like other colloids, diminishes diuresis. It assumes the colloid form in passing through any living membrane, never circulating in crystalloid form in the normal organism. On the other hand, in the diabetic organism, dextrose circulates as a free or very poorly crystalloid and in this state, is not available to the tissues and is a diuretic like every crystalloid. When the pancreas is absent or insufficient, dextrose occurs free, and he, therefore assumes that this combining substance is furnished by the pancreas and accordingly uses the term "pancreatic amboceptor" synonymously with "the internal



secretion of the pancreas." Allen defines diabetes as deficiency of the pancreatic amboceptor.

Sugar in the urine of diabetic patients is derived from food. Most of it comes from carbohydrates, but it is shown that in severe cases as much as 60% of the protein may be metabolized into sugar. While no sugar is formed from fat, if a diabetic consumes an excess of fat, his carbohydrates and proteins are not well utilized and sugar from these sources is increased. The content of sugar in diabetic urine ranges from a trace to 10%. The daily total may reach two pounds. The blood sugar in health averages 1-10% and in the untreated diabetic may be doubled or quadrupled.

In fatal cases of diabetes, coma is the final chapter in the majority of instances, due to acidosis from incomplete combustion of fats. Owing to the waste of the carbohydrates which hurry through the body in great part without being stored as glycogen or being burned, the energy must be provided by the proteins and fats. The carbohydrates are not used as fuel; the proteins are easily utilized but apparently it takes so much to burn them that not enough is left to completely consume the fats. The products of incomplete combustion accumulate in the system and suffocate the patient, says Osler, as effectually as does the C. O. of a charcoal stove. The chief product of this incomplete combustion of the fats is B-oxybutyric acid, which itself is the source of diacetic acid and acetone. In acidosis the fixed bases of the body are depleted in the early effort to maintain blood alkalinity. Carbonate is lacking to combine with the CO<sub>2</sub> in the tissues. The tissues are loaded with CO<sub>2</sub> which cannot be taken up by the blood. The venous blood is charged with oxygen and is as bright as the arterial. There is dyspnea, or rather hyperpnia, without cyanosis—the most dependable clinical sign of acidosis.

The degree of acidosis may be determined by several methods—by ascertaining the nitrogen and ammonia ratio, by quantitation of the acetone, diacetic acid and oxy-butyric acid excreted, and by estimating the carbon dioxide tension of the alveolar air. Joslin recommends the total ammonia for its comparative simplicity and practical value. The quantity of ammonia elaborated by the metabolism and excreted in the urine is a measure of the reaction of the body to counter-

act acidosis and maintain blood alkalinity. If the 24 hour total ammonia does not exceed three or four grams the acidosis is not serious. A most remarkable measure of defense of the body against acidosis lies in the power to excrete nitrogen in the form of ammonia instead of urea. Ammonia has 5 times the power of sodium bicarbonate to neutralize B-Oxybutyric acid.

We may now turn at once to those considerations having to do with the application of the Allen method.

The diabetic must be rendered and maintained sugar-free, not only because his symptoms are thus abated, but also because the power of his pancreas to promote assimilation of carbohydrates is thus markedly increased.

The treatment has been divided into three stages:

1. The stage of starvation, lasting one to three days or perhaps four, when the patient is becoming sugar-free.
2. The stage of gradually working the diet up to the limit of tolerance, under daily laboratory surveillance.
3. The stationary stage, when the diet is kept at a constant level. At this stage the patient is, in a limited sense, cured. He stays within his means as regards scope of alimentation and goes about his usual affairs.

Upon entrance the average diabetic patient is observed for two days from the clinical and laboratory standpoints under the conditions of his previous manner of living. After a physical examination, note is made of his symptoms as regards thirst, polyuria, skin manifestations, vision, gravity, percentage of sugar, diacetic acid, total ammonia excretions and any other presenting points of interest.

The stage of starvation may be inaugurated abruptly, the patient receiving only clear broth and tea or black coffee at the meal hours and water as desired.

Formerly, it was the practice to endeavor to get the patient sugar-free by the reduction of carbohydrates in the diet, at the same time immediately increasing the fat and protein to make up for the calories thus lost.

Various dangers attended this practice, including the aggravation of acidosis, and, at present, it is generally abandoned. The urine is rendered sugar-free by fasting as above in the mild or moderately severe case while in the severe, complicated, obese or

elderly case or that with definite acidosis, it is brought about by the withdrawal of fat from the diet and the subsequent reduction of carbohydrates and protein to a point at which sugar vanishes. After two days omission of fat, protein is withdrawn and then the carbohydrates are daily halved till fasting is reached unless sooner sugar-free. By the Allen method alkalies are unnecessary to combat acidosis, and, in the belief of Joslin, do harm. Our cases, in which fasting was resorted to at once in nearly all instances, have seldom fasted more than 48 hours, never more than 72 hours. Patients do not complain of hunger, and the thirst and polyuria gradually subside. They are allowed as much latitude in the respect of exercise and diversion as they desire. Joslin remarks that it is a surprising fact that a urine which contains 7% of sugar may become free after fasting for four meals and one containing 3% may still retain traces of sugar after fasting 3 or 4 days. He believes that cases presenting acidosis invariably require longer to become sugar-free.

The patients tolerate the modified fast remarkably well. There is usually a loss of 2 or 3 lbs., and Allen says that a moderate loss of weight is desirable; that a moderately obese patient, weighing 180 pounds, may continue to excrete a small amount of sugar for a considerable period if he holds his weight, even if he is taking very little carbohydrates, whereas, if his weight can be reduced to 170 or 160, he can be kept sugar-free on the same diet. "Reduce the weight of a fat diabetic and keep it reduced."

It is a fact not well understood by students of metabolism that whereas a healthy individual, fasting, develops an acidosis, a severe diabetic, fasting, loses an acidosis.

The possible pre-existing acidosis is usually lessened rather than increased during the fast, and is cleared up later when carbohydrates are given and the fats kept down.

When the urine becomes sugar-free a graduated series of ascending daily diets is initiated, constituting the second stage of treatment.

We have had great satisfaction with the diet tables used at Massachusetts General Hospital. They follow accurately the ideas of Allen and Joslin, and simplified in their measurements, and may be had in printed form.

Carbohydrate foods are classified into the 5%, 10%, 15%, and 20% groups, as shown on the cards that have been passed around. All foods are carefully weighed or measured; their contents of carbohydrate, protein, and fat expressed in grams, and their caloric values computed.

It is during this transitional stage that the service of an experienced diet nurse is most valuable. Her familiarity with the preparation and measurement of prescribed articles of food and with the alternative foods with which she may vary the regimen from day to day without upsetting the proportions and total, is a great help to the patient and physician.

In the early days of the second stage of the treatment of severe diabetic cases Allen directs that the vegetables be finely divided and thrice boiled, each time throwing away the water. By this procedure more than half the carbohydrate is washed out and the patients are allowed to have bulk in the diet.

In health the diet calories are made up as follows:

Carbohydrate 4-7, Protein 1-7, Fat 2-7.

In the low diabetic tables they are, roughly:

Carbohydrate 1-5, Protein 2-5, Fat 2-5.

While in the liberal tables they approximate:

Carbohydrate 1-8, Protein 2-8, Fat 5-8.

The decrease of carbohydrates must be compensated by increase in the fats. If diacetic acid and ammonia should at any time appear in disquieting amounts, fats must be curtailed. In anything like a serious manifestation of acidosis, it would be justifiable to exclude all fats and to give several oranges daily, regardless of a possible temporary return of sugar. The diet of the diabetic should contain, except for brief intervals, the minimum number of calories which the normal individual of the same weight and activity would require. If more is allowed there is great likelihood that a portion will be unassimilated and appear as sugar in the urine.

The dietetic steps to be followed in stage two may be set forth by citing an illustrative case which I shall presently do. At this point I wish to touch upon the hydrotherapy, physical exercise, and mental hygiene of this phase.

The efficiency of hydrotherapy in diabetes



is not accorded the recognition it deserves. Judiciously used, it is of demonstrated value. Mild sweating baths are indicated for the toxemia of faulty metabolism, and should be followed by graduated cool and cold couches and sprays to produce exhilarating reaction and enhance oxidation. For the robust patient then to take a brief vigorous swim in a pool at 72 degrees is excellent therapy. Fomentations, given daily over the abdomen, are calculated to activate the pancreatic functions in the very positive way in which they affect the other digestive organs, and, I am sure, have contributed much to my success in rapidly raising food tolerance, as in one case from 700 calories to 2300 calories.

Exercise of the muscular system is important in the diabetic, increasing oxidation and metabolism as nothing else can do, and improving the muscles themselves. It is only natural to conclude that if the muscles, in which are stored  $\frac{1}{2}$  of the carbohydrate of the body, are kept in good condition by training, a favorable effect must be exercised upon the general metabolism of carbohydrate. Gradually increased exercise is begun at once with all patients, except those unduly weak, or in dangerous condition. The effects of their walks and swimming are pronounced, and are shown not alone by freedom of the urine from sugar with an increased carbohydrate tolerance, but by improved circulation and general well-being. A physician in an eastern sanitarium told me of a robust patient who had a slight recurrence of sugar that day, and that he had threatened to reduce his food allowance. The patient protested and was given another day of grace upon agreeing to run up and down three flights of stairs three times, in addition to his usual exercise. On the other hand, the diabetic must not overdo physically. He should not get tired, and he must have an abundance of sleep, and a midday rest.

Joslin gives consideration to the mental frame of the diabetic. He enjoins his patient to forget that he has diabetes and to refrain from talking about it. He says this is one reason for not using saccharin and another is to avoid the perpetuation of a sweet taste thus reviving the thought of the previously unrestricted diet. Mental depression is quite characteristic of the untreated diabetic, and improved spirits a marked result of good treatment. Mental

diversion is desirable, anxiety is harmful. "It is almost as undesirable for a diabetic to get angry as for a man with angina-pectoris. He should keep cheerful and occupied, and, as far as possible, continue the previous current of his life."

What follows is a summary of the dietetic management of a mild diabetic case, selected for its brevity.

A man, age 45, weight 154 pounds (70 kilograms), gave a history of glycosuria of 2 years, two gangrenous toes  $1\frac{1}{2}$  years loss of 25 pounds in weight, thirst, polyuria, and loss of sleep due to aching of the legs. The physical examination presented nothing of interest except the gangrenous toes. The urinary report at entrance was: 24 hour quantity, 70 ounces, gravity 1.038, sugar 2%, diacetic acid present, total ammonia 2 grams.

He was given only clear broth and black coffee three times a day for two days; when he was found sugar-free and the acidosis subsiding and the second stage was entered upon.

On this day he received three meals like those above, plus, at each, 50 grams or 1 heaping tablespoonful of cooked 5% vegetables.

On the 2nd day the same with 3 heaping tablespoonfuls of 5% vegetables instead of one.

On the 3rd, 4th and 5th days each meal consisted of two heaping tablespoonfuls of each of two 5% vegetables plus an egg at breakfast and supper and between two and three ounces of steak or chicken for dinner. On this 5th day he was getting 39 grams of protein, and will later get 70 grams or 1 gram per kilo of his body weight. He was getting 16 grams carbohydrate or  $\frac{1}{4}$  his later due and only 22 grams of fat or 1-7 of that ultimately designed.

On the 6th and 7th days he was given 659 calories or one-third his due nutrition, the protein reaching five-sevenths, the carbohydrates one-third, and the fats one-fourth the contemplated goal. This table is as follows:

Protein, 50 grams; Fats, 40 grams. Carbohydrate, 20 grams; calories, 659.

#### Breakfast.

Egg, 1; string beans, 125 grams;  $2\frac{1}{4}$  h. tbsp.; cream, 1 tbsp.; coffee.

#### Ten A. M.

Orange, 50 grams,  $\frac{1}{2}$  small.



**Dinner.**

Broth. Fish (cod), 125 grams, 1 med. serv.; Brussels sprouts, 100 grams, 2 h. tbsp.; olives, 20 grams, 5 small; butter, 5 grams,  $\frac{1}{2}$  small sq; tea.

**Supper.**

Egg, 1; egg white, 1; spinach, 100 grams; 2 h. tbsp.; butter, 5 grams,  $\frac{1}{2}$  small sq.; cream, 1 tbsp., tea.

On the 8th and 10th days inclusive, a table representing 743 calories was given, the protein being increased to 6-7, the carbohydrates to one-half and the fats to one-fourth, the fats being conspicuously held back.

For the next 8 days consecutive tables are given, rising from 795 calories to 1850 calories.

In this series the protein stands at the maximum of 70 grams or one gram per kilo of the body weight, the carbohydrate remains between one-half and two-thirds of the limit, but the fats increase from 41 to 151 grams per day, or almost four-fold, and reach their maximum.

The total ammonia was but one gram. Sugar had not reappeared and diacetic acid reached the vanishing point on the 15th day. There was no return of sugar at any time. If sugar had reappeared a fast of one or two days would have been demanded, and we should have then gone back to a lower table for two days before retracing our course.

We had now reached a day's menu of 1732 calories as follows:

Protein, 72 grams, Fat, 139 grams; Carbohydrate, 35 grams; calories, 1732.

**Breakfast.**

Apple, 50 grams,  $\frac{1}{2}$  small; bacon, 50 grams, 2 slices 6 in. long; eggs, 2; asparagus, 100 grams, 2 h. tbsp.; cream, 2 tbsp.; butter, 5 grams,  $\frac{1}{2}$  small sq; coffee.

**Dinner.**

Lamb chop, 100 grams, 1 chop; peas, 100 grams, 2 h. tbsp.; radishes, 50 grams, 5 radishes; coffee jelly made with 1 level teaspoon gelatine, 8 tablespoons coffee,  $\frac{1}{2}$  grain saccharine; cream, 1 tbsp.; butter, 5 grams,  $\frac{1}{2}$  small sq.; tea.

**Supper.**

Bacon, 50 grams, 2 slices 6 in. long; eggs, 2; beet greens, 100 grams, 2 h. tbsp.; apple,

50 grams,  $\frac{1}{2}$  small apple, cream, 1 tbsp.; butter, 10 grams, 1 small sq.; tea.

From the 19th to 23rd days, the carbohydrates were increased to their estimated full amount, while the protein and fat values remained the same, and an adequate ration approximating 2000 calories reached. On the last day his menu was as follows:

Protein, 69 grams; fat, 153 grams; carbohydrate, 61 grams, calories, 1955.

**Breakfast.**

Strawberries, 100 grams, 2 h. tbsp.; eggs, 2; string beans, 100 grams, 2 h. tbsp.; potato, 50 grams,  $\frac{1}{2}$  size large egg; butter, cream, coffee.

**Dinner.**

Broiled ham, (medium fat) 100 grams, 1 med. help; potato, 50 grams,  $\frac{1}{2}$  size large egg, cucumbers, 100 grams, 2 h. tbsp.; lettuce, 50 grams, 5 medium leaves; butter, cream, tea.

**Supper.**

Eggs, 2; canned salmon, 50 grams,  $\frac{1}{8}$  can; cauliflower, 120 grams, 2 h. tbsp.; rhubarb, 100 grams (sweetened with saccharine) 100 grams, 2 h. tbsp.; butter, cream, tea.

**Allow during the day:**

Butter, 40 grams, 4 small sqs.; cream, 6 oz., 12 tbsp.; lemon juice,  $3\frac{1}{2}$  oz., 7 tbsp.

This patient proved to have acquired a tolerance beyond this adequate love of calories, and was given, on the 24th day and thereafter the above table plus a thin slice of bread at each meal. Our object had been accomplished and he had reached the third or stationary stage. An active business man, he adhered faithfully and intelligently to his regime and made a perfect report a year later.

The patient should by this stage be schooled in the management of his own diet and if he has grasped the importance of it, and if he possesses the required moral stamina to carry it forward, his future is safe.

I could give many records of cases treated by the Allen method at the sanitarium during the past 3 years, but they would involve tiresome repetition. Suffice it to say that I have never been disappointed in it and that the after results have seemed to be all that the individual patient deserved. If you have not utilized it, I commend it to your consideration.

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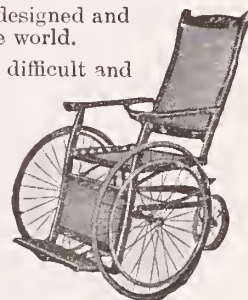
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Editorial and Business Office, Atlanta, Ga.

Subscription Price, \$2.00

Entered at the Post Office at Atlanta, Ga., under the Act of March 3, 1879.

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## THE SYPHILIS CLINIC OF EMORY UNIVERSITY, ATLANTA, GA.

W. B. Emery, M. D.

For the first time in the history of the Atlanta Medical College, the Department of Medicine of Emory University, Syphilis has come into its own. It has been recognized as a disease of great enough importance to give special time, consideration and study.

In our college heretofore, it has been intimately connected with the study of Genito-Urinary diseases, but Emory University, together with other large institutions throughout our country, has awakened to the fact that this disease is of such a nature as to warrant and even demand, proper recognition, as its ramifications are such as to attack every tissue in the human organism, and capable of complicating every other disease we are called upon to diagnose.

I desire to give an idea in as few words as possible of the work we are doing in our clinic and some of our methods used.

The Dispensary is open four afternoons of each week for the reception of these patients, and it has been our aim not to be

superficial in our examinations, but to be careful and thorough with the diagnosis, as well as treatment. The history blank we use contains outlines for a perfect physical examination as well as the usual tests for obscure Syphilitic lesions.

We have thought it best to separate the sexes, and, therefore, have the women on Monday and Wednesday afternoons, and the men Tuesday and Friday. The first two days mentioned are for the intramuscular injection of some of the insoluble salts of mercury (generally the Salicylate) and the last two for the intravenous administration of the arsenical preparations (Salvarsan, Diarsenal or Arseno-benzol.)

We contend that the mercury is just as important as the intravenous injections of Salvarsan and insist that the patient cannot, as a rule, have one unless they will consent to the administration of the other.

To give some idea of the magnitude of our work, I might mention that during the months from October, 1917, to April 15, 1918, 2959 treatments were administered to patients admitted to the clinic. During these two months, we gave 1138 doses of mercury, and 796 doses of the arsenious preparations

(Diarsenal, Arseno-benzol and Salvarsan). This, of course, is not the full extent of our treatments, as many received internal administration of Bichloride of Mercury, Iodide of Potash, the Protoiodide of Mercury, or constructive tonics during their rest period.

Our Department of Syphilis might be likened unto a pond into which flows a stream from each department of medicine and surgery. We have many patients transferred and some only referred for a certain course of treatment suggested by the physician sending them to us. We have assistants acting as representatives of the several departments, and those from neurology and Pediatrics I consider especially valuable, the first named is of great assistance in our spinal work, and the latter in the handling of children.

I understand that in many of the large clinics, there exists to some extent, petty jealousies between the dermatologists and the syphilologists. With us perfect harmony exists. The dermatologists, after diagnosing, refer patients to us for treatment, and I often find them of great service to me when it comes to the fine points of diagnosis in skin lesions.

I feel that this report will not be complete unless I mention the value we place in the methods we use in trying to educate the patients to some degree, at least, concerning the disease they are harboring. We make every effort to gain their confidence and co-operation. All of us know that many patients in our clinics discontinue treatment long before they are cured, and hence the large number of severe tertiary cases that return years later. I am sure this occurs in the large majority of cases through ignorance on the part of the patients. We not only try to explain to each individual the necessity of long, systematic and thorough treatment, and the danger of being misled by the disappearance of external lesions, but we give to each patient a slip printed in simple language setting forth the nature of the disease, prophylaxis, and the necessity of thorough treatment.

To those who cannot read and to the very ignorant, this information is read and explained to them by a student or assistant. Candler Bldg.

## SO-CALLED MARGINAL ECZEMA.

Cosby Swanson, M. D.

Instructor in Dermatology, Atlanta Medical College (Emory University), Dermatologist to Grady Hospital and Anti-Tuberculosis Clinic, Atlanta, Ga.

Saboraud was the first to point out the frequency of the parasitic infections known as marginal eczema and to successfully demonstrate the cause.

It is a disease confined almost entirely to middle life, being very rare in children or old persons. It is usually seen in healthy fleshy persons who are leading an active life. This is due largely to the fact that the organisms require moisture, heat and air to flourish. The disease occurs in both sexes although more often in males.

The character of the eruption varies according to the season, location, duration of the infection, susceptibility of the individual to the organism, and to secondary infection.

There are two clinical types of the disease, dry and moist. A patient may present both types at the same time or it may change from dry to moist or vice versa.

The dry type of the disease begins as a muscular eruption. The lesions varying in size from a half inch to two inches or more in diameter.

They gradually increase in size and number several coalescing forming large patches. As the lesions increase in size they usually become pale in the center, which gives them an annular appearance. The lesions are usually circumscribed with slightly raised borders which is due to the infection spreading from the edge. This form of eruption is very common on the perineum and inner surface of the thighs. It sometimes extends laterally over the groins, upward over the pubes, backward over the sacrum, in the axilla, about the breast of women and in rare instances about the umbilicus. I have seen several cases in which at least half of the body surface was involved. In some cases the eruption becomes moist due to friction from the clothing, exposed surfaces of the skin and to pyogenic infection.

In tropical countries the process of the disease is much more severe in its inflam-

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matory aspects. In the hot and moist seasons the inflammation from the active proliferation of the organisms, the heat, sweating and friction of the parts is so severe that patients are unable to go about. The itching leads to scratching which usually causes secondary bacterial infection producing furuncles and other inflammatory conditions. During the cool season the condition partially disappears and in some cases completely subsides. When the patient goes to a cold climate all symptoms of the disease disappear only to re-appear on returning to a warm climate.

Within the past few years Saboraud, Whitfield, Mitchell, Sutton, Ormsby, and others have demonstrated that the same infection that causes the dry lesion often causes a papular vesicular eruption which is the moist form of the disease.

This type of eruption is found on the feet, especially between the toes, at times on the hands between the fingers and occasionally on other parts of the body.

The lesions usually occur in groups and are deep seated in the beginning. The eruption usually begins from a central point of focus and spreads as in the dry form. Early in the disease the serum in the vesicles is clear, later it becomes yellowish tinge. Within a few days the fluid is absorbed leaving a brownish spot. Later desquamation occurs leaving a red smooth shiny surface with scaly borders. The patches have a tendency to clear up in the center which gives them a circinate appearance.

The eruption usually is succeeded by recurrences and on each recurrence the patches increase in size and number. In some cases inflammatory areas are formed with thick scales and crusts. This especially is liable to occur in those who are very susceptible to the infection. In some cases there is no tendency for the eruption to clear up in the center causing it to resemble eczema in many respects. It differs from eczema chiefly in that the borders are more sharply defined.

The eruption on the feet is usually confined to the skin surface between the toes and forepart of the plantar surface. In some cases it involves the entire plantar surface, the sides of the feet, the ankles and lower part of the legs. The activity of the disease between the toes is probably due to the warmth and abundant moisture of this region.

On the hands the lesions usually occur on

the fingers and the palms. In some cases it extends to the wrists, back of the hands and forearms.

So-called Marginal Eczema is caused by the epidermophyton inguinalis organism or one of the allied groups. In the majority of cases a correct diagnosis can only be made by finding the fungus.

The fungus flourishes most abundantly in the depths of the folds of the skin and from there spreads outward to where the folds separate. It does not attack the hair but lives on the epidermis.

The method described by Ormsby and Mitchell of examining for the fungus is very simple and gives a large per cent of positive findings. This method briefly is as follows:

In the dry form of the disease curette the border of the lesion, place the deeper scales of the epidermis upon a slide then drop a few drops of a 15 per cent solution of sodium or potassium hydroxide, over this place a covered glass and the slide is heated until the fluid boils.

In the vesicular form of the disease the lesions that are showing signs of absorption or those which are beginning to desquamate should be selected. In the older lesions the fungi will be found in greater number. The top of the lesion should be removed with a thin sharp blade, then inverted upon a glass slide and covered with a 15 per cent solution of sodium or potassium hydroxide; over this place a cover glass and heat the slide until it boils. Pressure is then applied to the cover glass, reheating and adding more solution as necessary until the tissue is pressed out into a thin smear. It is then examined with one sixth objective. The spores are found in chains, never in groups. They have a tendency towards a quadrilateral shape, and are somewhat loosely attached to each other. The chains of spores are interspersed with slender mycelial threads running in all directions.

Epidermophyton inguinale fungus resembles in many respects the ordinary ringworm fungi.

The disease is contracted usually in swimming pools, gymnasiums, bath tubs, toilets, barber shops, public wash basins, etc. The disease begins in the crotch perhaps oftener than elsewhere. The fungus falls down inside the clothing to the feet finding between the toes a suitable soil for growth. At other times the disease is transferred from one part of the body to another by scratching.

In the majority of cases, the differential diagnosis of so-called marginal eczema from other dermatosis is easy, especially after one becomes familiar with the general character of the lesions. The circinate character of the lesions must not be mistaken for psoriasis, certain syphilitic eruptions, the scaly seborrhoides, pityriasis rosea and eczema.

The lesions of psoriasis are usually covered with silvery scales. In psoriasis there are usually found characteristic lesions on the elbows and knees, that is pathognomonic. In syphilitic eruptions the lesions usually are polymorphous. In the majority of cases of syphilis there are other symptoms to aid in the diagnosis. In scaly seborrhoeic dermatitis the lesions usually are found on the face, neck and chest, which distinguishes it from marginal eczema. In seborrhoeic dermatitis there is usually seborrhea of the scalp and other positive symptoms to aid in the diagnosis.

Pityriasis rosea differs from marginal eczema in its distribution, character of eruption, etc. In pityriasis rosea vesicles never occur. Pityriasis rosea is symmetrical in development; occurs in oval rather than in circular patches; has a characteristic tawny-yellowish color which is never seen in marginal eczema.

In eczema there are usually more itching and burning sensation, less defined borders, absence of a circular contour, coarser scales and more infiltration. The moist form of the eruption is often mistaken for vesicular eczema, and dyshidrosis. It is like eczema in that its onset is usually sudden accompanied by marked itching, burning sensation and usually occurring during hot weather. In all eczematoid eruptions, a positive diagnosis can be made only after a careful examination for the presence of the fungi. One negative examination should not be sufficient evidence to dismiss the case as non-parasitic.

The course of the disease is obstinate persistent and subject to relapse. One attack does not confer immunity. In the majority of cases the treatment of the disease is very satisfactory.

In acute inflammatory cases with oozing a soothing lotion should be applied until the skin becomes hard and dry in character. In the vesicular type of the eruption especially when it occurs between the toes and fingers, it should be painted with a 3 to 4 per cent

solution of nitrate or silver dissolved in sweet spirits of nitre every day until the vesicles disappear.

After painting it with the silver nitrate solution a ointment containing 4 to 6 per cent of salicylic acid, 8 to 10 per cent benzoic acid, should be applied twice a day for from three to four days and then re-applied for from four to six or more days. Should the salve irritate the area it should be discontinued and a soothing application should be applied until the irritation disappears.

When the eruption occurs on the body, back of the hands, fore-arms, upper part of the feet, buttocks, genito-crural region a 4 to 6 per cent solution of pyrogallie acid dissolved in collodion should be painted on the patches every day for from 8 to 10 days.

In some cases other preparations, such as tincture of iodine, 4 to 6 per cent chrysarobin ointment, ammoniated mercury ointment and sulphur ointment have been used with success.

My reason for presenting this paper is this condition is more common than is usually supposed, and a correct diagnosis is necessary to its successful treatment.

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Atlanta, Ga.

## A TORN CERVIX VS. UTERINE INERTIA

By Eugene R. Corson, B. S., M. D.

Savannah, Ga.

The history of medicine has many chapters devoted to myths and myth-makers. Man loves the play of the imagination, and while we can trace many will-of-the-wisps to imagination run riot, we can also trace the beginning of many a great discovery to this same wonderful faculty. The scientific use of the imagination is a right royal gift, but its users are few and far between. Man in his quest after the causes of things has followed many a lost trail and often failed to get back even to his starting point.

It is interesting to study the wonderful influence of mere figments of the brain, as everescent and delusive as Virgil's phantom of Anchises—"par levibus ventis, volucrique simillima somno"—until someone calls a halt and looks for something tangible and visible, and the phantom vanishes into thin air. How long malaria was a miasm, hanging over a marsh, until Laveran picked

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out the material thing under the microscope. How long typhoid fever was also a miasm, a sewer gas escaping from defective plumbing. Their number is legion.

When I first studied Obstetrics we were taught to press down firmly the uterus after the birth of the child, until it felt hard like a baseball behind the pelvis. There was no sewing up of the perineum if torn, and the cervix was not even mentioned. The dangers of post-partum hemorrhage were long and graphically dwelt upon, and that grim monster, uterine inertia. The remedies were legion. There was always the dose of ergot. I have heard a physician relate eloquently on the wonderful effects of vinegar over the abdomen and as a douche. The great Robert Barnes, whose truly great work on "Obstetric Operations" always seemed to me to be the last word on the subject, vaunted the great value of perchloride of iron in the uterus for post-partum hemorrhage. Think of it, and not fifty years ago. My copy of his work is dated 1876, and I find on the flyleaf that I re-read it in 1878 and for the third time in 1879, and I can still recall the pleasure it gave me; and yet he mentioned the dangers from hemorrhage from the torn cervix and the advisability of suturing the torn perineum. But uterine inertia was the phantom which blocked the road and obscured the vision. The real cause of uterine hemorrhage was uterine inertia and the open uterine sinuses of the placental site. I must acknowledge how long I labored under the spell of this same myth, and as I look back, I can recall many hours of dread and anxiety, and of sleepless nights while hypnotised by this spell. So few of us stop and think, and so few of us stop and look.

Some years ago I had a simple labor case, where there was no perineal tear but a bad hemorrhage, which kept up in spite of pressure and ergot until I brought down the cervix with a sponge-holder and found a deep bilateral tear with the branches of the uterine arteries spurting an inch or more. That case dispelled for me that boggy of inertia. I sewed up that cervix with cat-gut and went home without any thought of my patient, but one of absolute security. The spell was broken.

Let us stop and look at the subject in a rational way. The uterus is a muscular bag, with a good strong draw string, and not only

that, its longitudinal, transverse, and oblique muscular fibres all tend to meet their lines of force at the apex of the cone. Tear this draw string and focus of contractions and you not only tear open the branches of the uterine arteries, but your uterine contractions have lost their point d'appui. The lever has lost its fulcrum. A normal uterus without any cervical tear, contracting firmly after expelling the child, compresses the uterine arteries and practically stops hemorrhage from the placental site, but the torn uterus contracts but half heartedly and you get a double hemorrhage, one from the torn vessels and one from the placental site, although hemorrhage from the placental site, I cannot believe to be serious except under unusual conditions. Now, I am not contending that there is no such thing as uterine inertia, pure and simple, and haemophilia, too, to cause post-partum hemorrhage, and death, too, if you please, but I believe these conditions to be rare, perhaps one-tenth of one per cent, just to give you a figure.

The literature is full of cases of later secondary hemorrhage, often severe and sometimes fatal. I beg you before you make a diagnosis of uterine inertia, or hemorrhage, from the placental site, that you inspect the cervix and look for a tear. In this case probably deep, and where the ulcerated process has opened up the uterine artery itself. You will probably find the uterus soft and boggy from trauma and from infection, conditions which could have been obviated by a little simple surgery after delivery.

And further I would state with emphasis that if you sew up the torn cervix you can omit ergot, pituitrin, and what not, and firm pressure over the tender uterus, and save your patient's stomach and much pain besides, and that you will have another example of plain surgery, taking the place of drugs. The day for the routine use of ergot after delivery is passed.

But more important still, this minor surgery will have reduced your raw surfaces open to infection and there will be less charting of temperature for the nurse and more comfort for the patient. By this simple precaution, you will have prevented the exposure of the parametric tissues to the external infections; tissues so rich in lymphatics. This means a shorter convalescence,



and perhaps the prevention of chronic invalidism and future more serious operations. If I have learned anything in my obstetric work it is that properly sewed up torn tissues reduces or wholly eliminate the complications of the puerperium.

As I close this short paper, you may say: "But this is all very evident and well known to us." I ask you, "Do you practice what you know?" That great Italian monk of the fifteenth century, Savonarola, had for his motto: "Tanto sa eiasenno quanto opera," which may be translated, "So much one's real vital knowledge, so much one's works." It seems that the mere abstract knowing of a thing is not all that is necessary to make that knowledge productive. It has to be vitalized by a certain depth of penetration, so to speak; a certain emotional re-action to its truth; a certain emotional re-action, to drive that conviction home and make the knower a doer. When you have had some bad cases of post-partum hemorrhage and have pulled down and exposed the cervix, and have seen the free hemorrhage from the torn tissues, you will then have become a real knower and doer, and when after you have sewed up snugly and firmly the torn parts, and the hemorrhage stops completely and you go home without an anxious thought or feeling, your experience, that much abused word, has made you a knower and a doer, at least when it comes to the proper treatment of your patient after delivery.

As I write this paper, I pick out of the Medical Record for January 12, 1918, the following excerpt, from a Norwegian Journal:

"Case of Atonie (?) Placental Hemorrhage—Arsenen, relates a case of a primipara aged 26, who up to gestation had been strong and healthy, while gestation had been normal save for initial severe vomiting. Labor was normal and the placenta was expressed by Crede's method. Blood and blood clots followed the placenta, and there were absolutely no uterine contractions, death seemingly impending from acute anemia. The author was forced to compress the abdominal aorta. Massage accomplished nothing and pituitrin was not available. At the risk of infecting the woman, the author inserted his hand into the uterus, and having found no retained placental debris, resorted to bimanual compression as recommended by Brandt. After 15 minutes benefit was ap-

parent. The patient also received supporting injections of camphor and gave no further trouble. She had lost from 1.5 to 2 liters of blood. The puerperium was afebrile."

In this case, of post-partum hemorrhage, the writer himself was in doubt of the origin of the hemorrhage, for his diagnosis of a placental hemorrhage, is guarded by an interrogation point. This shows that the cervix was not inspected. Had the cervix been examined, the origin of the hemorrhage could have been determined, for an intact cervix would have shown definitely that the blood came from within the uterus. He omits the one thing needful for a diagnosis, and more important still, for the proper treatment of the case. He, too, is under the spell of the phantom. He goes in on "all fours," and the patient gets well by the grace of God. To me clinically, the case was one of torn cervix—the prompt sewing up of which would have controlled the hemorrhage and saved the patient all the risk and possible future complications. The case teaches a great lesson and supports, I believe, the contention I make in this paper.

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Each Committeeman must report to the Chairman of this Committee the number of deaths of physicians that occurred in his Congressional District since our last annual meeting. Do this at once, so that at our April meeting we will have full report of the deaths of Physicians of the State during our Associational year. Yours very truly,

J. W. PALMER, M. D.

## HONOR ROLL

Doubtless many errors appear in this list. The Editor would appreciate corrections, so that the roll may be made official.

The names of physicians serving on Selective Service Boards will appear in our next issue.

Asterisks appear before the names of officers called on duty.

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**NOTICE TO MEMBERS.**

Owing to war conditions and the so-called "Flu" epidemic, the membership of the Association is less than at any time within the past ten years. Many of our members are still in military service, others have just returned and are necessarily devoting their time to re-establishing their practices. Many have been serving on various Selective Service Boards and are now engaged in getting the "loose ends" pulled together. All others have had the hardest work possible to perform during the epidemic, and in consequence have not as a rule been able to find the necessary time to hold meetings and elect officers for the current year.

The demoralization incident to war has affected all lines of endeavor and it would be surprising indeed if we had not suffered in the same way.

The medical profession of Georgia has responded nobly throughout the war and we

must now cease our endeavors. It is the duty of every doctor to assist in maintaining our Association, which has been the main source of supply to the various calls of the Government. We can not afford to be lax in these duties now that peace is in sight.

About seventy-five per cent of all secretaries of local societies have been in uniform, many are still and therefore they can not be expected to hunt you up and ask for your dues. In most instances local societies will be glad to continue the payment of dues of members serving with the colors. If we are not able to keep up our approximate membership the Association will be forced to raise the dues, which certainly is not to be desired. There can be no excuse of "Hard Times," as the profession is in better condition than for years. Let us all get busy, and put our shoulders to the wheel, and get not only the usual, but a much larger membership than we have ever had. Let every member constitute himself a committee of one to see that every eligible doctor in his county is a member of his local society. Are you willing to do your part? Do you feel that you have done your full part when after numerous requests you simply pay your dues and sit satisfied for a year? Whether you realize it or not, the Association has helped and is still helping you, and it behooves you to do your part in return.

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**PHYSICIANS' EXEMPTIONS FOR INCOME TAX.**

The blanks for the 1918 income tax returns are now being distributed. Each year since the income tax law was passed, the question has arisen: What constitutes the actual income of the doctor? Physicians more than any other class of professional men, have heretofore confused gross and net income. Owing to professional habits, no dividing line has been drawn between personal and family expenses and expenses necessary for carrying on a practice. Few physicians have kept sufficiently accurate financial records to enable them to separate these two classes of expenditures. Under the income tax law, all actual expenses of carrying on a business may be deducted from the gross income. For the average business man, compilation of such expenditures is easy; for the physician, it is difficult; and in many cases, through igno-

rance or carelessness, the physician does not credit himself with all the exemptions to which he is entitled. The Internal Revenue Department has ruled that everything that constitutes an actual expense for the transaction of business can be deducted, but that those articles that are purchased as equipment constitute investment and not business expense. Under this ruling, which is eminently fair, the original cost of an automobile used for professional purposes is an investment and cannot be deducted; but the expenses of repairs, upkeep, garage, gasoline, oil, and chauffeur's salary are legitimate expenses that may be deducted. Under this ruling, the following items would be regarded as legitimate deductions: Office rent, heating and lighting; office attendants, including office girl or boy, nurse or assistant, office telephone; drugs, dressings, bandages and all material that is to be consumed or expended in the treatment of patients, but no instruments, appliances, office furniture, etc., that are purchased for permanent equipment. Medical journals are a current expense and the subscription price may be deducted, but books are purchased as a permanent addition to one's library and are an investment, the price of which cannot be deducted. Dues in medical societies and organizations, and expenses in attending professional meetings, are legitimate deductions. This fact is understood by few physicians. All the expenses of keeping up and operating an automobile or of maintaining horses, carriages, sleighs, etc., that are used solely for professional purposes may be deducted but not the original cost of these articles. If an automobile, a team of horses or a carriage is used partly for professional purposes and partly for personal and social use, then the expenses of upkeep should be prorated.

Regarding home expenses, if a physician's office is located in his house and if the house servant devotes any amount of time to assisting the doctor in his work, as office attendant, a proportionate amount of rent, heat and light may also be deducted. The cost of a house telephone may be prorated in proportion to the amount of professional and personal service. Depreciation on automobile, office furniture and equipment and other property necessary for carrying on professional work may also be deducted, provided the amount charged off for depreciation in any one year does not

exceed the original cost of the article divided by the number of years in which it may be used. For instance, if an automobile costs \$4,000 and is used eight years, no more than \$500 a year depreciation can be

The general principle underlying the income tax law is that each person should pay a tax on his actual personal income for the year, that is, what is left to him for the use of himself and family after deducting all the legitimate expenses of carrying on his business. Physicians heretofore have not availed themselves of exemptions to which they were entitled and have probably in the majority of instances, paid taxes on a larger sum than their actual net income. Careful study of the instructions, accurate bookkeeping, and care in making up the returns will result in a considerable saving, which is perfectly legitimate and fair under the law.—*Jour. A. M. A.*, Feb. 2, 1919.

#### THE RESULT IN OHIO.

In the *Journal*, last week,\* attention was called to the position taken by the legislative committee of the Ohio State Medical Association on the bill exempting Christian Scientists from the provisions of the medical practice act. It was pointed out that the medical profession of Ohio had done its full duty in showing the dangers to public health involved in the passage of the bill, and that the responsibility rested where it belonged, on the lay members of the legislature. The prompt reaction of these members to this definite placing of responsibility is shown by the defeat of the bill in the house last week by the decisive vote of eighty-three to twenty-two. No possible suspicion of self-interest can be attributed to the physicians, either as members of the state legislature or as representatives of the state association, who took such a position. The bill was defeated because the overwhelming majority of the members of the legislature were convinced that its passage was not in the interest of the public. It is safe to say that the influence and standing of the Ohio State Medical Society in the eyes of the state legislature and the public are far better than would have been the case if its members had participated aggressively in political activities against the measure.—*Jour. A. M. A.*, Feb. 22, 1919.

\*Ohio Finds a Better Way, *Current Comments*, *J. A. M. A.*, 7: 497 (Feb. 15) 1918.



**ATTENTION!**

A meeting of the Councilors was held on the 4th of March and at this meeting it developed that the members of the Association are slower this year in paying up their dues than they have ever been in the history of the Association. When we remember that about half of the members of the Medical Association of Georgia were in the Service and the other half involved in the most general and fatal epidemic we have ever experienced, we understand why they have neglected their membership fees. A large percent of the members in service have and are returning and the epidemic of influenza has subsided with early spring and good weather. There is and can be no reason, **now**, why each County Society should not hold a meeting at once. Because when you are in arrears collect their dues and send check with list of names to Secretary and Treasurer, Major W. C. Lyle, Candler Building, Atlanta, Ga. If it is impossible to have meeting of your local Society, the Secretary should call up his members and get their dues and send in a tonce. Because when you are in arrears for annual dues you no longer enjoy, after the 31st day of January, the privileges and benefits of the Association and the protection from the Medical Defense Department until they are paid, consequently you can see and realize the importance and need of never getting behind with your membership fees.

If any County Society has any members in U. S. Service, it is that Society's duty to pay their dues and keep up their membership until they are no longer in Service.

There is a motion lying on the table to amend our Constitution, increasing annual dues from \$3.00 to \$5.00, if it becomes necessary in order to keep up Associational and Journal expenses, therefore, get busy at once and let every member see that his membership fee is sent in through his local Society and that every reputable physician in his County becomes a member of his County Society. There is no reason why every eligible, reputable physician in each county should not be a member of his local society. Misunderstandings and personal differences certainly should not keep one out. Let us estimate each other in his point of strength and not in his point of weakness, and if there exist any misunderstanding or personal differences, by thus co-operating with each

other in our local and state societies, they will be removed and we will come to know each other better and like each other more. You can't get along without the State Association and it can't get along without you. Don't be content with sending in your membership fees and reading your Journal, these are important, but remember, seeing and hearing is absolutely necessary, therefore, begin now planning your business affairs so you can attend our coming April meeting.

Yours very truly,

J. W. PALMER, M. D., President.

**EMPHYSEMA.**

H. K. Berkley (Los Angeles), and T. H. Coffen (Portland, Ore.), Camp Lewis, American Lake, Wash. (Journal A. M. A., Feb. 22, 1919), describe an extensive subcutaneous and interstitial emphysema occurring in nine patients in Camp Lewis as a complication of broncho-pneumonia. Two patients are also developed spontaneous pneumothorax in the camp, and it seems to the authors likely that there is a relationship between the two conditions. One patient, indeed, presented both conditions at different times. In each case the bronchopneumonia was corroborated by roentgenography and in fatal cases by necropsy. The type pneumonia was comparatively mild, but different from that usually seen in robust young adults. It began usually with malaise for twenty-four to forty-eight hours, diffuse body pains, aching joints, cough and chilliness. The patients appeared, as a rule, only moderately ill and the initial temperature was rarely over 101 F. Lung symptoms usually were present when they had been in the hospital twenty-four to forty-eight hours, and after three or four days most of the patients showed improvement and went on to uneventful recovery. In a few, however, the condition became critical and it was among these that the emphysema and pneumothorax is discussed, and the pre-describe the bacteriologic findings, but it was impossible to connect any special organism to the phenomena noted. The mechanism of the production of emphysema and pneumothorax is discussed, and the presumed routes, both intrapleural and extrapleural, of the passage of air to the tissues of the chest wall are suggested. The article is illustrated.



**CAMPTOCORMIA (BENT BACK.)**

G. W. Hall, Chicago (Journal A. M. A., Feb. 2, 1919), reports a case of "bent back" of soldiers, the camptocormia of Souques, which seems to be a functional trouble following shock from shell explosion, etc. In all cases so far reported lumbar pain was an important symptom, causing many days in bed and followed by spinal distortion. The injury causing the disability may be distant from the spine. In the case reported, the patient suffered a bruise on the left arm, and a box weighing 115 pounds, had fallen across his abdomen. There was no immediate serious disability, but twelve days later his body became flexed to the left when sitting, standing or walking. The condition was regarded as functional, and an operation for a varicoele was performed which seemed to mentally affect the patient, as he believed himself becoming impotent. The patient was advised to be placed in a neuropsychiatric hospital. Rosenoff-Saloff, who described sixteen cases, found all his patients neuromyopathic cases. Sicard and Souques found hyperalbuminosis as the only symptom of organic nervous trouble. The condition resembles no other known disease except spondylitis deformans. The treatment that aids the patient's belief in a serious trouble is too often applied by the practitioner. The patient should be told that he is a victim of a bad habit, and that his trouble is purely functional. Electricity can be used as a means of suggestion only. In neuromyopathic cases the prognosis is not so good, and such patients should be treated in a neuropsychiatric hospital and be under the strictest discipline. This seems to be the opinion of those who have had the most experience with such cases.

**MASTOIDECTOMY.**

C. T. Porter (Boston), Camp Upton, Yaphank, L. I., N. Y. (Journal A. M. A. Feb. 22, 1919), reports cases of operation for mastoid disease following influenza, with local anesthesia. "The method of administration was as follows: The patient was first given one-fourth grain of morphin subcutaneously, and in half an hour a 0.5 per cent. solution of cocaine or procain, when the latter became available, was injected into the skin along the line of incision. The injection

was then carried into the deeper layers and finally under the periosteum over the entire area of the mastoid. The insertion of the sternomastoid muscle and the posterior canal wall were injected at the last. About 15 c.c. of a 0.5 per cent. solution were used, in each case, although as high as 30 c.c. of a procain solution were used in one case—a double mastoiditis—and as low as 6 c.c. of a 0.5 per cent solution of cocaine were used in another case." After waiting for from five to ten minutes the operation was started and carried on in the usual manner. But little actual pain was complained of, though the pounding in removing the cortex was usually disagreeable. In only one case was general anaesthesia necessary, and the total absence of any shock following the operation was remarkable. The incidence of dry middle ears was 100 per cent, and there was no mortality. Several cases are reported, rather briefly.

**TUBERCULOSIS.**

The prevention of relapses of arrested tuberculosis in soldiers is the subject treated by S. A. Knopf, New York (Journal A. M. A., Feb. 22, 1919). A great many return home, even from sanatorium treatment, with the label of an "arrested case," and still show a lack of resistance to the minor respiratory infections on account of the relaxing rest cure methods in the sanatoriums, which favors the relapse of the tuberculous infection. This applies, also, to soldiers who have had long hospital treatment or who have had the arrested tuberculosis excited by the hardships of war. The paper is mainly a description of the methods of massage, hydrotherapy, and exercise, which are available for the soldier. All three of these methods—massage, hydrotherapy and respiratory therapy—may have been applied and the patient considered as safe against relapses as he can be made; then the question of occupation and environment arises. If those to whom it is possible can choose healthful outdoor occupations to which they have been accustomed before, such as advisable, and for those who cannot select them for themselves, Knopf describes the hygienic methods which should be employed by all soldiers discharged as arrested cases of tuberculosis. They should be impressed with the need of having their lungs examined every three

months for the first year or two, and semi-annually afterwards. Any intercurrent indisposition or actual disease should be considered sufficient cause to obtain medical advice.

#### ANTALGIC SPINAL DISTORTION.

Antalgic spinal distortion is a term used by John Saliba, Elizabeth City, N. C. (Journal A. M. A., Feb. 22, 1919), to denote an unnatural condition of the spinal column characterized by a misdirection of the normal attitude, a stooping with rounded shoulders and back, varying from slight curve to a decided deformity. The condition has received considerable attention by French writers, but the author has found no mention of it in the literature of this country, and in that of England he has found only one paper. Although the condition as an acquired one has been often observed in military life it is not unknown among civilians. Many surgeons have undoubtedly observed cases following operation of accident, especially in persons having a predisposition to hysterical or neurasthenic conditions. The main factor in its etiology is pain, and it may become so continuous and aggravated by stretching of the ligaments and small back muscles as to be a serious matter. Resulting from injury or rheumatism may cause it. The more or less permanent organic factor may be slight and the psychic element chiefly responsible. The distortion rises from the pain, not the pain from the distortion, as a rule. The organic element in it is a minor factor. In some cases it may be difficult to diagnose from spondylitis deformans, but careful observation will settle the diagnosis. In spondylitis the change of position does not affect the spinal curve, but in this trouble, the normal position can be restored with the patient lying on his back. Naturally with the difficulties of diagnosis and need of more thorough observation, all sorts of treatment may be adopted and the patient come to believe his condition incurable. Psychotherapy should take the place of the various and elaborate methods of treatment, and remove his impression that he has a serious organic disorder. Saliba reports an illustrative case in which the persuasion and re-education of the patient brought about are within a week. The article is illustrated.

#### THE WASSERMANN REACTION IN PREGNANCY.

Incited by the report of Falls and Moore as to the high percentage of positive Wassermans in pregnant women, E. L. Cornell and A. W. Stillians, Chicago (Journal A. M. A., Feb. 22, 1919), undertook an investigation of cases of pregnancy in private practice and in the Chicago Lying-In Hospital. They assumed the figures of the authors mentioned would not apply to the general run of cases, and the large percentage found by them was due to the fact of their studies being made among charity patients and especially negroes. They therefore investigated two parallel series of cases, one among private patients and another among those entering the Chicago Lying-In Hospital for free care. The cases in the first series were consecutive, every patient in the practice of Cornell being given a Wassermann test on their first visit. Some were in the early stages of pregnancy, others near delivery, and some were consultation cases. In 107 cases, four gave a distinctly positive reaction, excluding two doubtful ones. Two of the four gave a history pointing to syphilis, while that of the other two was in no way suggestive of it. There was in a large number of cases a record of abortions or stillbirths, numbering twenty-one altogether. In all probability these patients were not syphilitic. In one case there was a criminal history of first abortion, but the authors say that it does not seem reasonable to ascribe any large proportion of them to syphilis, and Dr. De Lee's observation that other infections might cause stillbirth stimulated them to look for other causes and to give a table of their results, showing what seemed to be possibly adequate causes in the most of their cases. The second series corresponds to that of Falls and Moore, except that it included no negroes. Ten of the 101 charity patients gave positive reaction. The fact that the percentage of syphilis in this series is nearly three times as great as in the other corresponds to the higher proportion of syphilitics among charity cases. About a third of the charity patients were unmarried, and 40 per cent of those giving positive tests were among these last. Half the syphilitic patients were in their first pregnancy. There were no false positives in eclampsies as reported by Falls and Moore, but there were



several weak positives or doubtful reactions in cases in which syphilis was afterward excluded. They occurred much oftener when heart antigens were used than with syphilitic liver antigens. The phenomenon reported by Menten of positive reactions before parturition changing to negative immediately after childbirth was observed in one case by Stillians. "In spite of the phenomenon of Menten, it is probable that the well known tendency toward latency of syphilis in women tends to product a negative Wassermann reaction in a large percentage of cases than in men, and we therefore feel certain that some syphilitics in both of our groups escaped detection. Examination of the cord and placenta or of the dead infant will supplement the serum test in these cases. Accepting even our small percentage of positive results in the private cases for the general prevalence of syphilis among women, the estimate given by Pusey would be swollen from 1,200,000 to 4,320,000 adult syphilitics in the United States." The figures are considered formidable by the authors, and they would emphasize the pregnant woman as an important stronghold

5—MEDICAL—

Spinger—of the enemy, syphilis. Even if only 3 per cent of pregnant women are found syphilitic the trouble and expense of the routine Wassermann would be justified. It should be checked by the search for the pirochete and postmortem examination when possible.

### INFLUENZAL PNEUMONIA.

A report illustrated by a number of tables by E. L. Opie (St. Louis), A. W. Freeman (Columbus, Ohio), F. G. Blake (Minneapolis), J. C. Small (Chicago), and T. M. Rivers (Baltimore), Camp Pike, Little Rock, Ark., appears in *The Journal A. M. A.*, Feb. 22, 1919. The period covered is from September 20 to October 19, 1918. There was a total of 11,899 cases of influenza and pneumonia, 1,499 of the latter, with a total mortality of 3.8 per cent. of those attacked—the mortality for pneumonia was 31 per cent. The most striking feature of the epidemic was its rapid spread, which covered the whole camp in four days. The new recruits especially suffered, in both white and colored troops, while those who had been longer than a month in camp showed hardly more than half as great a percentage. The colored soldiers showed a

striking percentage in the incidence of attacks, which is not attributed, however, to any special racial immunity. The majority were new recruits and the older ones averaged about the same as that of negroes of similar length of service. The incidence of pneumonia was also greater among the new men, and was higher among the colored troops. At first overcrowding aggravated conditions, but as soon as this was relieved, they improved. The influenza was characterized by sudden onset with chilliness and sharp elevation of temperature, often from 103 to 105 F., with extreme prostration, backache, suffusion of face and injection of conjunctive. Coryza, pharyngitis and tracheitis with a harassing cough have been almost invariable. In most cases the temperature fell rather abruptly in from two to five days. Epistaxis and hemoptysis were frequent, and about a third of the patients developed purulent bronchitis. Multiple cultures demonstrated in some instances an almost pure culture of *B. influenza* in all of the early cases. The authors' observations also showed its presence in the mouths of 35.1 per cent. of healthy men in the camp. Other organisms were also present in the pneumonia cases, but pneumococcus, Types I and II in only a relatively small proportion, whereas Type II atypical, and Types III and IV were found in 82.6 per cent. The pathology and bacteriology of pulmonary lesions were shown by special study of seventy-nine cases and are described in detail. Observation indicate that *Staphylococcus aureus* may be engrafted on a pneumococcus and cause limited foci of suppuration without empyema. The authors' study of ward infection by hemolytic streptococci as a complication of influenza pneumonia demonstrated its occurrence and danger. Lobar pneumonia was rather more frequent than bronchopneumonia in the Camp Pike epidemic, and several types of suppurative pneumonia are described. The authors emphasize the importance of preventing streptococcal infection in the wards. Such cases should require the wards to be isolated and as much care taken in the technic of management as in the best maternity hospitals. When it appears in a ward, that ward should be closed from further admissions, and there and elsewhere bacteriologic examination be thorough, both during the treatment and in cases coming to necropsy.



Selective Service Number

# THE JOURNAL

OF THE

Medical Association of Georgia



PUBLISHED MONTHLY UNDER DIRECTION OF THE COUNCIL

Editorial and Business Office, Atlanta, Ga.

Subscription Price, \$2.00

Entered at the Post Office at Atlanta, Ga., under the Act of March 3, 1879.

VOL. VIII

ATLANTA, GA., FEBRUARY, 1919

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## THE TUBERCULAR QUESTION—"YES" OR "NO?"

C. C. Aven, M.D., Atlanta

The writer apologizes to the Medical Profession for coming into print with this old subject, for its antiquity dates to the earliest records accessible to man. The writings of Hippocrate 460-377 B. C.—contained a description of the disease correct in the essential details as to equal a work of modern excellence. From this early period divergent conceptions have been entertained relative to the pathology of tuberculosis, but a uniform opinion has prevailed relative to the clinical characteristics.

Why is it a disease that is so prevalent and presents such definite clinical phenomena is so sadly neglected and so frequently overlooked by the average practitioner? Can there be a lack of humanitarian interest? Is professional skill lacking, or is it because there is no cure? No. Then why? I cannot say, but certain underlying causes are mani-

fest even to the casual observer for this lack of interest.

First of all, its ever presence makes us prone to overlook it, just as we do other common and usual occurrences of life. According to best estimates, about one and half million individuals are incapacitated from work in the United States and approximately one hundred and fifty thousand deaths occur annually as a result of tuberculosis, and these are very conservative estimates. Secondly, the average practitioner is very prone to omit a physical examination of the chest and often times the examination is made without even the removal of the clothing, which is more essential in this than any other examination, as the sounds, etc., elicited are frequently faint or even obscure.

To more forcibly illustrate—I recall a young girl fifteen years of age who came under my observation with a diagnosis of pulmonary tuberculosis. She left Atlanta for a visit and while away became ill, having a cough, fever and general malaise. A physician was summoned and a diagnosis of typhoid fever was made and treatment instituted consisting of medicine for relief of symptoms and a liquid diet. Approximately



eight weeks passed and no improvement was noticed. Her weakness was more pronounced and emaciation more perceptible. Finally consultation was asked and an examination by a consultant revealed a "slight lung trouble." This "trouble" proved to be a far advanced tubercular process. The mistaken diagnosis and the starvation incident thereto gave the disease every opportunity to advance and the ultimate result will be death, and in it's wake sorrow and sadness as the lot of the parents, to say nothing of the economic loss—directly chargeable—not to ignorance, for every physician of today certainly is or should be abreast with the diagnosis of tuberculosis—but to criminal negligence.

The dread of this scourge causes the doctor to refrain from giving the patient a diagnosis of tuberculosis. Now which means most—"Yes" or "No"? If we say "yes" and it proves negative, we have everything in our favor for statistical evidence proves that when we say "yes" we are more often right than wrong. Again if we say "yes" and the patient carries out the plan of treatment, we are both still victorious, for the "cure" has never harmed anyone. If we say "no" and the patient has tuberculosis our professional reputation is at stake and the life of our patient quite frequently lost, due to the neglect of early treatment which is so necessary. When full explanation is given for revealing a diagnosis, we are assured of cooperation in most instances, and we cannot intelligently treat anyone possessing ordinary intellect without their being suspicious, for the public is so well informed on this subject.

There has been a general decrease in tuberculosis for the past decade, but the pandemic of influenza that has just passed will evidently be a predisposing cause for an increase in the number of tubercular individuals; this, coupled with the great physical and mental strain, the unbalanced diet, long work hours and many other things that the human race has had to endure during war times will most assuredly cause an increase in this dreaded disease. Therefore, it behooves each of us as physicians to put forth greater effort to be more zealous and painstaking in our search of this horrible malady. If the practitioner is not positive about the

findings, he should be frank and insist upon consultation, thereby clearing himself of any undue criticism and place the patient in a position to receive the correct course of treatment. This should be the policy of every physician, for our duty is to prevent and lessen human suffering and prolong life.

I do not wish to assume the attitude of "critic," but merely direct your attention to a few of our faults that may be easily corrected. Let us resolve to be more alert and vigilant in our search for tuberculosis and reap the eternal reward. Tuberculosis is not only preventable but curable, so let's begin anew and obliterate it from the world for it can be done and it is within our power as physicians to do it. From my experience of several years in a large tubercular clinic and from observation of patients in private practice, I have concluded that what we do is very little but well worth while.

Permit me to make a few suggestions. Advocate sanatorium treatment, for each patient cured is a center from which emanates the education of the community. Carefully observe every tubercular family, as one case is a sure sign of more tuberculosis. Educate and thereby eliminate. "Keep up the fight and increase your might" by beginning with the unborn generation. Be more careful, whether Surgeon, Internist or Gynecologist, for this subject should interest all.

Let me add in conclusion that there is possibly no new thought contained herein, but there is an old subject commanding much thought for a new generation.

Hurt Building.

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### BOYS' RIGHTS PRENATAL AND OTHERWISE

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An Address to the Mothers Club By C. W.  
Roberts, M. D., Surgeon to Georgia  
Baptist Hospital and Instructor in  
Surgery, Emory University  
Atlanta, Georgia.

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I want to thank you for this signal honor. Why you should have called me to the boys' defense, from among such a galaxy of talent as Atlanta affords, I have not been able to fathom. However that be, it is enough for

me in the presence of this splendid company, to make humble obeisance and hasten to respond to your request, begging only that you will bear in mind the fact that I come from the ranks of a very busy profession and that you will charge the feebleness of the effort as well as the lack of satisfactory discussion of the subject, to the time-consuming occupation mentioned in this connection. Instead of appearing as an instructor it would be less pretentious should I choose to avail myself of the golden store of life-giving and life-preserving admonitions, buried in the bosoms of my auditors. I come to you with a spirit of reverence. Asking your indulgence in a digression of personal nature, if in the past I have accomplished anything worthy of note or if indeed I shall ever, by any means, lighten the burdens of my fellow men, it is with free and glad some recognition that I recall the faithful, never failing guidance of a mother like unto yourselves by whose sacrifice and in the light of whose loving chastisement and counsel I have thus far journeyed on life's highway, being thereby qualified to lift an occasional burden, to influence a life here and there, but realizing more and more as the days go by, my debt of gratitude. It is an incomparable privilege that you enjoy. Motherhood is the culmination, or should be such, of women's fondest dream. Noble and commendable, however, as is the attainment, let us not forget the responsibility that it brings, a responsibility in magnitude, easily in keeping with the dignity conferred by this honorable state.

It is this responsibility that brings us here this afternoon. I have been requested to speak to you on the Inalienable Rights of the Boy, and I trust that we may be able to present some of the "Rights" to which the boy is entitled in such a way as to make your duties clear, thus affording a profitable engagement and helping you to face squarely the responsibilities that rest upon you.

I might dismiss this subject with the summary statement that the Boy is entitled by virtue of these inalienable rights to any and all factors that contribute to the development of a sound body, and healthy brain, governed by a high regard for the moral and spiritual life. We desire however, to refer more specifically to some of these rights and I there-

fore invite your attention to a few that are at the present time engaging the serious attention of many god men and women all over the world.

For the purposes of this paper it is fitting that we limit our discussion to such subjects as pertain to sound development of the boys body and mind, there being at this time no question as to the boys claims regarding matters of education and morality.

The Boys' Inalienable Right begins long before his birth. Let us consider for a moment some of the conditions that now prevail reacting finally to the detriment of the Boy, blighting his growth and seriously hampering him in the race of life.

First, the boy has a right to expect that his parents shall measure up to a high standard of physical qualifications. A lasting sin of the American people is the premature marriage of our daughters. In the early hours of the morning of womanhood, we too often see them assuming, as best they can, the exacting duties of motherhood. This is a serious reflection upon the American home and admonishes us, in no meager of fanciful language, to carefully look about us for a measure that will correct this disgraceful stain on American home life. I say American, because in no other country is there such frequent violation of this time-honored and time-tested tradition. Every day within our midst, while yet in the very beginning of womanly development, in the most tender and non-resisting hours of early Girlhood, the fair daughters of America are permitted to assume duties that should be reserved for maturer age. Now, it is not hard for us to understand why this is a serious infringement upon the Boy's pre-natal Right. Called upon at this tender age, before time has adjusted, before the Laws of Nature have had time to harmonize, while yet a child herself, her offspring is ushered into life, and by virtue of these facts, possessing a weakened mental and physical development and an unstable resistance, he thus enters upon life's unrelenting journey, blighted and crippled, soon to be cut down by the irresistible law of the Survival of the Fittest. The unborn boy has a right to expect that his interests in this regard shall be safeguarded, and you as mothers, and the wives of men, owe it to them to so watch

over your daughters and those upon whom you may have influence that the future of this country we all love may witness a rapid disappearance of this evil from its verdant shores.

Another infringement upon the Boy's Inalienable Right comes in the intermarriage of kin. It is now a well recognized fact that the off spring resulting from the marriage of relatives is peculiarly susceptible to physical break-down, to mental deterioration and to moral lassitude. A fact so well known and recognized in plant and animal life should need no emphasis here. Born under this handicap, what are we to expect from our boys? Their Inalienable Rights along this line calls for broad education and quick legislation. Will we hearken to its call?

Another question of absorbing interest at the present time deals with the assumption of the marital relation among the feeble-minded, those suffering from inherited diseases, chronic, incurable diseases, such as advanced tuberculosis, etc. I believe the time will soon come, and indeed it is the consummation devoutly to be sought, when both contracting parties in wedlock shall be compelled to present a certificate of health attesting their physical fitness, thus rendering much less likely the transmission of incurable diseases and preventing the promulgation of a deplorable malady now gaining such alarming strides in our land, that of insanity, far less common. Have you stopped to think that the conditions responsible for this rapid increase in our army of mentally deficient, an undue share of which this Empire State harbours within its bounds, is largely preventable? Has it been brought to your attention that our state Institutions are fairly running over with these unfortunate inmates and that men who are watching the ebb and flow of this important question are calling long and loud for some legislation that will vouchsafe to us a favorable change in the future? Truly, Mothers of Men, this is a question demanding our serious thought and more than this, our concerted action if we are to contribute our share toward the prevention and control of this unfortunate class of citizens. You ask what we can do? Is it not a question for the state and its lawmakers to solve? I answer yes—and no. It is a question for the state and its citizens to solve and we fail to do our whole duty, when

knowing these facts, we permit our sons and daughters to encourage its stupendous growth by a violation of these well known aetiological factors. It is time for us to face the facts, to call a spade a spade, if you will pardon the vulgar expression. Let us cease to teach that mental backwardness, Inherited Diseases, physical unfitness, is a visitation of God's disfavor for some commission or omission on our part. When God created the heavens and the earth and perfected this matchless achievement by breathing into Adam the breath of life, we are told in sacred writ that this first born having been made in His image was perfect in mind, soul and body. We, therefore, may be permitted to assume that the various and sundry maladies, adding so much to the sum total of human woe are a product of man's digression which had their beginning in the original sin of Adam and have since grown as a great devouring monster ever infusing its poisonous influence into the minds and bodies of a race weakened by sin.

With a wholesome respect for the opinions of those who hold that men are afflicted as a form of punishment meted out to them by a just God, and trusting I may be considered violating no sacred law, I respectfully submit the conviction that man was never intended by the Creator to be sick, but representing the master-piece of His creative power, and fashioned after His own divine form, was to the contrary given perfection of mind and body and ever so intended that he should remain.

The ever-widening gulf that now exists between the perfect man Adam and his brother of the twentieth century, broken in body, tossed about and unstable of mind, skeptical and ill at ease of soul, represents the appalling influence of disease on human life twisting and distorting God's master piece, and often masquerading under the assumption of heavenly original but imitating always from man's failure to obey divine law.

Let us, therefore, look at the question with open and reasoning minds, applying the Gospel of common sense, then soon we shall see this blight upon the fair forms of our countrymen fade before us, as does the dew with the advent of the morning sun. Prenatal Rights! The twentieth century boy has the right to **demand** of his parents that they **shall measure up to a high standard** of pro-



ficiency in this regard, for in no other way can we hope to run an even race in the present strenuous life, filled with its ever exacting duties.

We have been dealing in the foregoing remarks with boys' rights, demands made upon us by the unborn boy. We have seen that our duties to him begin long before his actual advent into this world of ours. Indeed, I believe that we will have made a long step in the solution of the boy problem when we come to realize fully the facts, so imperfectly referred to above. After all, it is simply this: A normal, healthy father, strong in physical physique and free from mental abuse, and a womanly woman filled with the milk of human kindness, proud of her mission in life, joyously looking after the tedious affairs of the home, shutting out abnormal broodings and annoying forebodings, gladly accepting in the promulgation of the race her God given mission on earth. From such a union we need have no fear that the resulting offspring will be dwarfed by parental influence but may rest assured that the product of these harmonious lives will come forth endowed with all the attributes that develop into the well rounded man.

Now, for a moment let us consider a few of the Boy's Inalienable Rights after birth. I shall dismiss from this discussion questions of behavior, sleep, exercise, amusements, dress and so on, although recognizing as I do these should engage the prayerful attention of the mother. Instead, in the few moments that I shall continue to draw upon your time I desire to direct your attention to a few questions suggesting themselves to me as less likely to be impressed upon you by the literature of the average household. The moral and mental development of the boy, desirable as this may be, depends directly upon his physical well being. Every student of sociology recognizes that men must first be well before they can be expected to be good. Hungry men, those who suffer from the pangs of disease, misery in all its forms, ill prepares the body to receive and appropriate the truth. Students of religion have long taught that there should be offered in the world's service bodies that are free from the ravages of disease if the great purposes of the Master in the creation of man are to be attained. But let us not forget that the

strongest moral sense and most brilliant mind readily falls prey to a devouring defect in the physical environment. The boy's salvation depends upon this fact. Therefore, our boys have a right to demand first of all that they be made acquainted with these fireside truths of physical and moral health; that they be instructed in the simple principals of hygiene, the baneful effects of heredity, the excessive use of alcohol and the blighting demoralizing effects of venereal diseases.

You ask, quite naturally, what are the boys demands upon as mothers, in this effort to raise his physical standard and to so start him in life as to avoid the above enumerated evils. First let us get away from the prevalent belief that the child must come into the world over-intelligent. The precocious child is the result of a mistaken idea on the part of its associates. All we want in the early years of the child's life is that it shall be healthy. To attain this healthful state four things are necessary—quiet, sleep, fresh air and digestive food. The nervous system of the average child is kept in a state of constant aggravation by our thoughtless efforts to make his eyes grow bright, to hear him laugh aloud and to encourage him to do some smart tricks. Instead of tossing him in the air and unduly exciting to laughter we should bear in mind the need of quietness. Otherwise we awake too late and realize that we have a nervous child that starts at every sound and seems not to know how to sleep. The value of sleep needs no emphasis and usually results from the simple adherence to the principle of quietness just referred to. Side by side with the quiet and sleep for the child comes the need of fresh air. We are rapidly learning that this is one of the great necessities of life and the child should have it in abundance. As to the food for the little child we have advanced with rapid strides of late. It is a deplorable fact, however, that so many mothers are unwilling to nurse their babes. Our duty in this regard needs no emphasis and only in very exceptional cases, where there exists positive contra indications to material nursing, should we permit ourselves to shirk this responsible duty, so far reaching in its effects. To the other who nurses her child and with due regard to detail after the nursing age, the dreaded second summer loses its

terrors. The old adage which teaches to bring a boy up in the way he should go, and another, with which we are all familiar "The way the tree is bent it will surely grow"—facts appreciated by every one but plainly suggested by these ripe old sayings—adages which acted as lamplights to our fathers and mothers feet as they earnestly counselled with themselves in the rearing of past generations,—seem to have lost their charm in our time. It is just as easy for our boys to do right, when taught what is right as it is for them to acquire wrong doing, because of neglect. It is all in the habit. The boy has a right to expect us as his parents to guide him in the years when habits are forming and it is a serious reflection upon the parent when the children go wrong. What can we expect from our boys when we fail to point the way, to advise them regarding the dangers and pitfalls along the journey, when we fail to set them the proper example. I cannot refrain from laying special stress upon this point of example. How often we hear the boy say that so and so was good enough for father and mother, or that father and mother believed or did thus and so and this is good enough for me. It is rare that we see children break away from the habits formed under the fathers roof and it behooves us therefore to remember that it is the boy's inalienable right to have such example set before him, such practices taught him as shall always in the doing, redound to his everlasting good, as well as reflect credit upon those who set firmly his feet on the highway leading to a more exalted mental and moral life. We should not confound the child's rights with his desires. Like ourselves, they often want things that are far from good for them. Over-indulgence of the child leads in many instances, to lamentable ends. Select for the boy the book he reads, his associates, his pleasures, go with him when necessary that he may exercise his just rights as a care free boy—teach him truthfulness and obedience, early in life acquaint him with the dignity of labor and as he grows into maturer years he will honor you and bless you for not having spared the rod, for having led his wandering steps into the straight and narrow way. Ignorance of the law excuses no man from the penalty of its violation, and when the boy sins because you have failed to make clear its consequences,

and his health and future happiness is gone, whether he blames you or not, the blood is upon your hands. Wash them, Mothers of Georgia at any cost. Paint in no uncertain terms the results of secret sin; acquaint your children with the ravages of venereal disease, that human abattoir which lurks all over our land seeking to destroy our youth and threatening the very vitals of our Sacred Life. Delicate subjects they are, but demanding the handling with ungloved hand and with an eye single to a purpose, hoping only to protect our own from its perilous consequences.

In conclusion permit me to congratulate you on the organization of the Mothers' Club. To be a true Mother with all that the word implies is both a serious and exalted position. The mother who does her part in the nursing and training aright her children is of greater service to her day and generation, if she would only realize it, and occupies a more enviable position than any man in it. All true men doff their hats to you and bid you God speed and when the work of earth has ended and the crowns in heaven are being distributed, I think there will be a special lot, all set with the choicest of jewels, prepared by the great Giver of rewards and reserved for that faithful army of mothers who have labored long on earth, oftentimes in obscurity and without any commendation or compensation save the HOPE that her children would measure up to a high standard—the consummation of her fondest dreams.

### THE DIAGNOSIS OF DISEASE OF THE ACCESSORY SINUSES OF THE NOSE.

J. T. Maxwell, M.D., Savannah, Ga.

The majority of sinus cases which come to the rhinologist give a history which shows that they have been of very long standing. It is not uncommon to find that the disease has been present for from five to fifteen years. If these cases could be recognized sooner and given proper treatment, the serious results would be far less numerous, and the task of relieving them would not be so great.

It is my impression that the average prae-

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itioner does not usually recognize the importance of the accessory sinuses in their relation to disorders of the nose. The courses in anatomy seem to pass lightly over these parts, and many physicians have a hazy idea as to their location and size, and their relation to the nasal chambers.

I am giving this demonstration from dissections with the idea that a more intimate knowledge of the anatomy will make it easier for the general practitioner to understand the importance of disease of these parts.

There is no one symptom which alone may be relied upon to make the diagnosis of sinus disease. Although when the various symptoms are understood the diagnosis should not be difficult.

Pain, tenderness over the sinuses, discharge from the nose, occlusion of one or both nasal chambers, asthma, and attacks of sneezing or coughing, are the most common complaints which cause the patient to seek relief.

Acute inflammation of the accessory sinuses with or without obstruction may be accompanied by more or less pain. Should the drainage be obstructed the pain will be very great. Affections of the frontal, ethmoid and maxillary sinuses frequently produce pain over the areas involved, but ethmoid disease may produce pain in the top of the head, and chronic sphenoidal sinusitis may cause pain in the temple or occiput. Exceptions are so numerous, and pain is so often referred to other locations, that as a localizing symptom it should be used in connection with other findings. It is a common occurrence to have a patient come in complaining of pain behind or in the eye. Not long ago a man came into my office holding his hand over his eye, which had kept him from sleeping for three or four nights. Drainage and ventilation of the anterior ethmoidal cells on the right side relieved him entirely of his pain in a few hours.

Headache resulting from sinus affections is one of the common symptoms associated with the disease, and yet it is frequently not recognized and patients go for years taking various cures for chronic headache, when the real cause is entirely overlooked. As an undivided symptom indicative of disease of a particular sinus, it is not reliable, but its presence or absence in the whole symptom

complex is very important. The pain of supraorbital neuralgia must not be confused with frontal sinus pain. Since the supraorbital nerve lies in the notch at the junction of the inner and middle third of the upper margin of the orbit, it is normally more sensitive than the bone of the upper, inner angle of the orbit. This is even more marked in supraorbital neuralgia, while in frontal sinus disease the reverse is true, and the orbital wall of the frontal sinus is very much more sensitive than the orbital margin. Tenderness over the base of the frontal sinus and the os planum of the ethmoid, is often of great service in diagnosis of disease of these parts. This may be elicited by placing the thumb by the side of the eye far back into the orbit and pressing upward against the floor of the frontal sinus or inward against the wall of the ethmoid. Acute disease in the maxillary sinus is frequently accompanied by tenderness over that cavity. Comparison should always be made with the sound side.

Pain and headache caused from sinus disease is nearly always intensified when the head is lowered, as in the act of stooping over to lace the shoes.

Discharge from the nose or backward into the throat is often accompanied by no pain or other discomfort whatever. If the secretion reappears at the same spot in the nasal chamber shortly after having been removed, the evidence is positive that a reservoir of pus in one of the sinuses is underlying. The discharge may be constant or intermittent according as to which cavities are infected. It may be thin and watery or thick and tenacious.

However in many cases the small openings from the nasal chambers into the sinuses may be occluded from swelling of the mucous membrane lining or from swelling of the middle turbinate bone, and no discharge at all is in evidence. The majority of the cases which come under the observation of a specialist in this line have been treated only by nose sprays. When one stops to consider the anatomy of the nose, and the tiny openings from the nasal chambers into the sinuses, it is evident how impossible it is to reach the seat of infection in the sinuses by a nose spray alone.

In chronic sinus disease, one of the common symptoms is nasal polyps. Whenever a



nose is occluded by polypoid growth it is safe to conclude that there is a sinus disease also. And to remove the polyps with a snare without going farther into the case, simply means that the patient will return with a recurrence of the trouble.

I have seen patients in which violent attacks of sneezing were the only complaints. Examination in these cases showed ethmoid infection with polyps in the nasal chambers, and also in the ethmoid cells.

Asthma and coughing are often the chief disturbing symptoms in sinus infection.

In making a diagnosis the X-ray should always be used, since it not only gives evidence as to which cavities are affected, but it gives also valuable information as to the shape and extent of the cavities involved.

#### DISCUSSION OF DR. MAXWELL'S PAPER.

DR. W. A. COLE (Savannah, Ga.): While I am not an Eye, Nose and Throat man I do a great deal of this work from an X-ray standpoint. I have found on a good many occasions that I can be of benefit to the surgeon, while in some cases I cannot. Recently, within the last year, I had a man referred to me for supposed ethmoidal infection. I made an examination and found none. The man was not satisfied and went to New York to Frederick M——, who probably stands at the head of the profession in this country in the diagnosis of sinus conditions with the X-ray. His diagnosis confirmed my own, and the man progressively lost his sight of one eye. He drifted into a dentist's office and had a third molar removed and he is getting well. Contrary to that, about three weeks ago a man was referred to me for examination of his teeth. I found nothing wrong with the teeth, but I did find an ethmoidal infection. That was reported to the surgeon who opened the ethmoid and found a considerable polypoid growth there. This he removed and this man is getting his vision back.

So I think the X-ray examination is sometimes a help in the diagnosis of this condition, although the interpretation of the plate is extremely difficult, owing to the fact of the greater viscosity of one side over the other and perhaps, too, because there is no standard as to what constitutes a normal sinus. Every person is a law unto him-

self in regard to this condition and it makes it extremely difficult to interpret a plate correctly. In the deep parts of the axillary sinus I have made erroneous diagnosis, thinking there was infection there, when as a matter of fact the surgeon had already opened and drained the sinus, my mistake being due to the fact that the sinus on one side was perfectly clear and yet the bone was of such great texture that it caused a very definite shadow. I would like to emphasize the fact to the men who are doing this work that the X-ray findings are a very great help, but yet they are only one link in the evidence for or against disease.

#### REMOVAL OF URETERAL STONES MINUS THE CUTTING OPERATION; REPORT OF CASES.

By E. P. Merritt, M.D., Instructor in Genito Urinary Surgery, Atlanta Medical College, Emory University, Urologist to the Georgia Baptist Hospital.

The agonizing pain caused from ureteral stones is the most acute suffered from stones anywhere in the human body, and especially is this true where the stone is "active" or trying to work its way out. The symptoms vary. The size, shape and length of time the stone has been there has much to do with the severity of pain, along with the amount of back pressure of urine. Of course a stone does not have to be large to cause pain, taking into consideration the smallness of the ureter, along with nerve supply. The ureter is about 11 inches long, with the lumen narrow in three places. Ureteral stones get their origin in the kidney pelvis, beginning from a clump of bacteria or desquamated epithelia, gradually enlarging by accretion of the urinary solids. The solids are usually phosphates or urates. Almost every ureteral stone gives pain. The severe pains are in the form of colic, commonly called kidney colic. A very small percentage give little pain, but that is the exception. The usual symptoms that accompany ureteral stones are as follows: Pains in region of stone, with history of colicky attacks; pains ra-

diating downward to the genitals, also the thigh and in the lumbar region. Nausea and gas distention are invariably present. Oftentimes several doses of morphin are required to produce ease.

The diagnosis is not always as easily made as would be supposed. Of course if all the stones gave shadows under the X-ray it would be easy, but a small percentage fail to show up, therefore care should be taken to have the patient well prepared before the X-ray plates are made. There is much similarity of symptoms on the right side between appendicitis and ureteral stones, therefore a careful examination and study of the patient are necessary. Shadows cast in the ureteral region, especially in the pelvic portion, that are stone-like are frequently not stones, but phleboliths or pathologic mesenteric glands. This point can be ascertained by the introduction of an iron oxide catheter inserted into the ureter, and plate made, judging the distance from the catheter as to whether the shadow is too far from the catheter to be in the ureter or not. If symptoms of a stone be present, and the X-ray findings are negative, then, if obstruction be in the suspected ureter, the wax tipped catheter is of advantage. Many times the urinary findings from the suspected side is of value. Naturally the cystoscope is the important factor in diagnosing ureteral stones as well as in the differential diagnosis from other confusing ailments.

Fifteen patients suffering from ureteral stones, have come under my observation. In thirteen of that number I removed the stones by manipulations through the operating cystoscope, therefore the thirteen will be mentioned in detail. All showed up per X-ray except one. Colic attacks, thirteen. Family history of stones traceable to the parents was given in six cases. Pus cells were found in urine of all. Red blood cells were found in urine of four. Urinary findings of stone deposit in four cases were positive. Of the thirteen cases there were five women and eight men. All the women had stones in the left ureter, in six of the men the stone was found on the left side. The stones ranged in size from a small pea to an almond. In no case were over four attempts made to remove the stone before it was expelled. In a few instances one manipulation did the work. The average trials were three. In the ma-

jority of cases the stone was lodged about the pelvic brim. The method used in my practice has been to dilate the ureter with regular ureteral dilators. Preceding the dilation a solution of papaverin sulphate or weak solution of novocain was inserted for the anesthetic part it played, and also for the relaxing power it has upon the muscle fibres.

If the stone could be caught with the forceps, which was possible in a small percentage of the cases, it was removed immediately; if not, after dilating, a sterile solution of olive oil was injected below the stone for the lubricating effect. For severe attacks, which often occurred, morphia was used freely, also hot sitz-baths and hot applications. The patient was advised to strain all urine. In several of the cases it was necessary to clip the meatus of the ureter on account of this orifice being too small to expel the stone. This is easily done, causing the patient no after trouble.

From past experience it is my opinion that instrumentation, plus using the cystoscope, and perhaps opening the urethral meatus sets up an irritation that is reflexed, making the ureter contract and dilate and thus expelling the stone. In at least 90 per cent of cases ureteral stones can be removed by the method outlined here, doing the patient no damage, especially when done by an experienced and careful cystoscopist. This method also saves the patient from the severity of cutting operation, which has its disadvantages as far as future developments are concerned, namely, adhesion, etc. The day of the cutting operation for ureteral stones in a large majority of cases is over in the opinion of conscientious surgeons.

## ARSENIC IN THE TREATMENT OF SKIN DISEASES.

Cosby Swanson, M.D., Instructor of Dermatology Atlanta Medical College; (Emory University) Dermatologist to Grady Hospital, Atlanta, Ga.

Arsenic and its compounds are used so frequently in the treatment of skin diseases that its effect should be closely studied.

Skin diseases are common among those

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engaged in roasting, extracting and packing of arsenic. The powder penetrates beneath the clothes, dissolves in the secretion of the body, which causes an intense irritation of the skin and often arsenical poisoning. In some cases an obesity is produced in the beginning, later the patient becomes pale and emaciated. The rash usually begins in the axilla, around the genitals and often extends to other parts of the body. The lesions most often seen are papules, vesicles, pustules, boils and pigmentation.

Arsenic applied to the normal dry skin does not produce any change, but when applied to broken skin, sores, etc., its action is very powerful, often destroying the tissue to a considerable extent. For this reason it has been used as a caustic to remove warts, condylomata and similar growths. By "quacks" and a few regular physicians it is used as a "cancer cure" on the theory that it takes the growth "out by the roots." This usually is effective only in very superficial growths and a considerable amount of healthy tissue is destroyed at the same time which leaves much more cicatricial tissue than by the judicious use of radium on the X-ray.

Arsenic given internally acts directly upon the diseased skin by stimulating the epithelial cells of the skin. It stimulates the vasomotor trophic centers and peripheral nerve endings. Its tonic and alternative properties on the nervous system increases the nutrition of the skin as well as improving the general condition.

When arsenic is given for some time its stimulating effect on the epithelial tissue of the skin causes the solution and absorption of the well organized inflammatory eruptions or a thickening of the epidermis and in some cases an increase of pigment.

This is often the case in meddita

This is often seen in the treatment of psoriasis; old lesions disappear, often leaving pigmented patches while the more recent lesions increase in thickness.

The action of arsenic on the nervous system is seen best in pemphigus, dermatitis herpetiformis, recurrent sweat eruptions and chronic urticaria not dependent on digestive derangements. Arsenic is indicated in a few chronic inflammatory dermatoses such as lichen simplex, lichen planus, lichen acuminatus, pityriasis rubra pilaris, psoriasis, espe-

cially in chronic cases, pemphigus, dermatitis herpetiformis, mycoses fungoides, cutaneous sarcoma, tuberculides, prurigo, in anemic patients with acne, in chronic eczema that have areas of lichenification, and diseases caused by the spirochetes.

Arsenic is contraindicated in nearly all inflammatory diseases of the skin, in pruritus, in most cases of acne rosacea, in dyspeptic urticaria, in all deep seated diseases of the skin and in acute eczema. It is especially contraindicated when the eruption is coming out acutely and when the patches are very hyperemic.

In eczema arsenic is an uncertain remedy. It may be safely stated that it is prescribed by dermatologist in only a very small percentage of cases. It has aggravated as many cases as it has relieved. It is usually given in small doses as a tonic along with other drugs of the same class. It is often objectionable in psoriasis, especially of the young for at this time the disease is in its progressive stages.

The preparations of arsenic generally used internally are Fowler's solution, Donovan's solution, arsenous acid, arsenite of iron and sodium cacodylate. It should be given after eating, well diluted, and in some cases it is best to combine it with a vegetable bitter.

The preparations of arsenic used subcutaneously, intramuscularly and intravenously are solution of sodium cacodylate, salvarsan, neosalvarsan, arseno-benzol or some one of the substitutes of salvarsan.

Sodium cacodylate is the best preparation of arsenic when it is to be given often in small doses for a long time. Salvarsan is the best preparation when it is to be given in large doses with several days between the dose and in diseases caused from spirochetes.

Sodium cacodylate and salvarsan exert the action of arsenic over a longer period of time than the inorganic forms of arsenic and are less toxic.

Arsenic should be begun in small doses as a rule and gradually increased, the dose should be reduced when toxic symptoms appear, but not completely discontinued unless such course be imperative. Some people can take large doses of arsenic for months without any ill effects, while in others two to three minim doses produce such a toxic effect it has to be discontinued. It should



not be given until all derangement of the gastrointestinal tract and kidneys have been removed as far as possible.

It is a well known fact that by beginning with a small dose of arsenic and gradually increasing the dose leads to higher degree of tolerance of the drug. When it is given in large doses it often causes vomiting, diarrhoea, and abdominal pain, weakness, dizziness, headache, cold sweat, chills, fever etc., and in some cases an erythematous, papular or vesicular eruption. Arsenic given over a long period of time often causes a chronic poisoning which is usually indicated by pruritus gastro-intestinal disturbances, swelling of the lower eye lids, erysipeloid eruption on the face; herpes zoster or may have a general papular eruption on the face, neck, hands and often becomes general resembling measles or scarlet fever. In some cases bullous, pustular, ulcerative or gangrenous lesions may appear, while in others a keratosis and pigmentation.

Arsenic often causes a thickening of the horny layers of the skin which begins round the sweat follicles and gradually form warty lesions. In some cases the intervals between the lesions slowly fill up and form a uniform thickening; this usually occurs in the palms of the hands and soles of the feet but may occur on the knuckles and elbows. In other cases these lesions degenerate and form epitheliomata.

After the administration of arsenic it may be found in almost all the body tissues. The elimination of arsenic goes on very slowly months may elapse before all disappears.

The elimination of arsenic depends somewhat on the way in which it is administered. When it is given subcutaneously or intravenously the kidneys eliminate more than the gastro-intestinal tract. Diuretic and laxatives should be given after the intravenous injection of a large dose of arsenic.

The use of arsenic in conditions in which it seems to be indicated is often disappointing. It will at one time remove the disease and at another fail altogether. In some cases improvement does not commence until a considerable quantity has been taken. Its action is usually slow unless assisted by other treatment especially by local treatment.

Since the introduction of salvarsan to the profession in the early part of 1910, it has passed through the experimental stage and

its usefulness is fairly well established. It is a spirocheticide but not a specific for syphilis, as it is frequently impossible for the drug to reach all the spirochetes. It has been clearly demonstrated that salvarsan in full doses kills the spirochetes that are accessible in the blood and lymph. Salvarsan does not cure syphilis for the reason that some of spirochetes are buried in the tissue away from the direct influence of the drug. The spirochetes that are buried do not come directly in contact with the salvarsanized blood and lymph in sufficient strength to kill them. Some of the spirochetes survive the weak influence of the drug, reproduce and the symptoms of the disease later recur.

Salvarsan is far from harmless, many after effects are noticed after its administration, even with the most careful technique. The spirochetes of syphilis seem to become more resistant to arsenic after several doses have been given. It is usually necessary to combine the use of arsenic with that of mercury. The other diseases in which salvarsan acts as a specific are oriental sore and frambesia. Because of its more transient presence in the system it has not the virtue of the other arsenical preparations in many chronic skin diseases.

Conclusions: Arsenic is a remedy the effects of which are uncertain and often disappointing. The common practice of promiscuously giving arsenic in skin diseases is often harmful and should be condemned. Arsenic instead of being one of the first drugs to be given in skin diseases should be one of the last.

To successfully use arsenic in the treatment of skin diseases the physician should be familiar with the etiology and pathology of the disease, physiologic and therapeutic action of the drug.

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Doubtless errors have occurred in the above list. The Editor will appreciate corrections.

Men serving on Boards and latter serving in Uniform were listed with the Honor Roll last month.



**PARINAUDS CONJUNCTIVITIS.****Report of Case.**

Parinauds conjunctivitis is sufficiently rare in this country to warrant reporting this case.

History. Mrs. M. C. Age 26. Widow. Housewife.

Chief complaint, redness and itching of left eye. Swelling of left side of neck and fever.

Family history: Negative.

Past history: Usual children diseases.

Menstrual history: Normal, no pregnancy, no history of lues. General health has been good.

Present condition: Two weeks ago first noticed that the left eye was red, eye began to burn and itch and had a slight discharge. This gradually got worse; about the third day she began to feel weak, appetite poor and had some fever; never higher than 101. About this time the swelling on left side of face appeared swelling gradually getting larger and was extremely painful to the touch. The last few days fever has disappeared and she has felt much better, the eye and swelling of the neck has remained about the same.

Examination: Vision in each eye, 20-20 pupillary reflexes normal. Right eye, external examination negative. Fundus normal. Left eye, very slight swelling of lower lid, slight mucopurulent discharge. Palpebral conjunctive of the upper and lower lid markedly congested. Conjunctive of the lower lid shows large number of small granules, at the fornix these granules are very large, and age numbe ae sago like bodies. Ocular conjunctive only very slightly congested, external examination otherwise negative. Fundus normal.

General examination: Parotoid, preauricu-

lar, sub-maxillary and cervical glands of left side markedly swollen very hard and very painful to touch, overlying skin ightly red, no enlargement of glands elsewhere. Nose and throat negative. Heart and lungs negative. Tendon reflexes normal. Temperature normal.

Examination: White 6500. Reds 4,975,000. Polymorphoneuclear 70. Small lymphocytes 25. Large lymphocytes 4.5. Eosinophies 8 per cent. Basonphile .5. Wassermann on the blood negative.

Smears and cultures from conjunctive negative. Patient refused to have biopsy of glands.

In considering defferential diagnos, Tuberculosis, Sporotrichosis, and Parinaud's conjunctivitis should be considered.

Tuberculosis of the conjunctive is very chronic, ulceration usually present. Glandular enlargement usually not painful, and does not respond readily to treatment.

Sporotrichosis usually associated with ulceration and yellowish nodules and spores can easily be demonstrated. cases having been reported.

This case is one of Parinaud's conjunctivitis extremely rare in this country, very few

The etiology has not been discovered. Parinaud ascribes the disease to infection derived from animals, as a large number of the cases reported have occurred in butchers.

The disease usually ends in recovery after a few weeks, the glands not infrequently suppurate.

This case was treated with 2 per cent silver nitrate solution applied to the lids once daily and 25 per cent argyrol instilled in the eye three times daily. Aspirin grains V every three hours. The condition gradually cleared up after two weeks.

# Pneumonia

The high percentage of deaths from infection by the *streptococcus hemolyticus* complicating pneumonia, warrants our calling attention to the importance of

## 1st. IMMUNIZATION

Preventing infection with an appropriate Serobacterin or Bacterin. Reports from physicians in charge of medical work connected with industrial institutions, boards of health, and general practitioners, abundantly justify the prophylactic use of a suitable Serobacterin or Bacterin containing the organisms isolated from the present epidemic, in preventing influenza and pneumonia.

The Conference held at the British War Office, October 14, 1918, Col. Sir Wm. Leishman, Chairman, reported in favor of immunization and treatment of infections with suitable bacterins.—See British Med. Jour., Oct. 25, 1918, p. 470.

## 2d. TREATMENT

In *streptococcus pneumonia* the early use of Antistreptococcic Serum Polyvalent administered intravenously, in full doses (100 to 200 mils), repeated every 8 to 12 hours as indicated. This serum contains the antibodies against the different streptococci isolated from the present epidemic. Especial reference is made to the *streptococcus hemolyticus*.

In *pneumococcus pneumonia* the early use of Antipneumococcic Serum Polyvalent administered intravenously in full doses (100 to 200 mils), repeated every 8 to 12 hours or as indicated. The superiority of Polyvalent Serum was proven in a series of cases treated with Polyvalent Serum and a series treated with Type I Serum only, when found due to be Type I Pneumococcus infection. See report by Medalia and Shiff, M. C. U. S. Army, Jour. A. M. A., Nov. 30, 1918, p. 1821.

In mixed infections the conjoint use of both sera is indicated.

We prepare a Monovalent Antipneumococcic Serum Type I and a Polyvalent Antipneumococcic Serum. The Polyvalent Serum contains the same amount of antibodies against Type I pneumococcus as the Type I Serum and in addition contains antibodies against Types II and III. Preference may be given to the Polyvalent Serum where type determination is impracticable.

These Serums are furnished in 50-mil Ampuls with Apparatus for intravenous injection.

Literature mailed upon request



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Program Number  
**THE JOURNAL**

OF THE  
**Medical Association of Georgia**



PUBLISHED MONTHLY UNDER DIRECTION OF THE COUNCIL

Editorial and Business Office, Atlanta, Ga.

Subscription Price, \$2.00

Entered at the Post Office at Atlanta, Ga., under the Act of March 3, 1879.

VOL. VIII

ATLANTA, GA., MARCH, 1919

No. 11

## Relief

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### FIVE POUNDS A WEEK.

By W. W. Blackman, M.D., Robertson-Blackman Sanitarium, Atlanta, Ga.

To "fatten and redden" the patient is so often recognized as being of necessity to his cure that physicians have sought along many paths for the surest, safest, quickest, easiest and most agreeable method for achieving this consummation much to be desired. Surpassing all other plans to this end in the Milk-and-Rest Cure.

Milk is the choice of ailments because of many obvious advantages over other foods. Milk, chemically considered, satisfies every demand as material for a body-building campaign in that it contains all the food elements in the proper proportions and in easily assimilable form. Its purity and quality may be definitely determined in ours and other cities where there are maintained city and state departments for inspecting and regularly reporting on the per cent of butter fat, temperature maintained, cleanliness, water supply, and bacterial count of all

milk brought into the city. The purity of our milk is never in doubt. Other advantages possessed by milk are that it is easily measured, it requires no preparation at the hands of cooks, it is uniform one day with another. Our patient must take a balanced ration in double the usual amount. How could this be so conveniently and easily accomplished and so generally agreeable as in the form of cool, rich, sweet milk in glassful amounts at half hour intervals?

When milk is taken in large quantities—5 to 7 quarts per day—it furnishes the body with an enormous amount of food value. A quart of rich milk contains about 700 units of food value or "calories." 5 to 7 quarts contain 3500 to 4900 calories. 2000 calories per day is ample for the support and maintenance of a resting patient, hence the intake and assimilation of from 3500 to 5000 calories per day represents a tremendous profit to the organism, when converted and utilized for repair and tissue building.

Rest is important, in a tissue building cure, from many standpoints. The varying degrees of rest prescribed, from partial to complete, foster the conservation of gain and repair. Rest in bed, in a cheerful, airy



room, is much to be desired in the majority of instances. If circumstances permit, a special nurse should be had, one who possesses a helpful temperament and who can read to the patient at intervals, keep down annoyances and exertions, and promote confidence and repose. The recumbent position in bed favors warmth of the extremities, equalizes circulation of the blood, and promotes digestion. Physical and mental rest give fullest sway to digestive processes. In the horizontal position, the abdominal viscera, with their not too light cargo of milk are maintained in good position. Reclining on the right side favors emptying of the stomach contents into the duodenum. With the attendant rapid improvement and gain, the enthusiasm of the patient is often striking. Most of these patients are allowed to walk through the halls to the treatment departments and this amount of exercise, even if no more is allowed, coupled with tonic bath procedures and rubbing, keeps the muscular system in a state of satisfactory tone.

The Milk-and-Rest Cure, no matter how well conducted, is not a therapeutic hopper to which the patient may be indiscriminately consigned and left to be turned out in the perfect state. If this were true, the role of the physician therein would be secondary to that of the cow. Painstaking diagnosis is as necessary to this treatment as to any other. More often than not, the simultaneous use of other therapeutic measures is vital to the fullest success. Indeed, the Milk-and-Rest Cure is, in reality, usually used at the Sanitarium as an adjunct to other specific measures. We always employ, along with the rest-and-fattening cure, the therapeutic baths and other selected treatment to remove any discoverable causes for the patient's disability, to aid the digestive and eliminative processes, to tranquilize the nervous system and for tonic effects.

**The constitutional effects** of a Milk Cure when properly administered, are very gratifying both to the patient and to the physician. They may be summed up as follows: 1. A substantial gain in weight, which is usually permanent. **Five pounds per week** is the usual gain. This weight is due, not only to increase of fat, but also to upbuilding of muscular and other tissues. This applies particularly to the muscular and glandular structures of the stomach and intes-

times, due to the increased activities imposed upon them throughout a milk cure-regime.

2. An increase in quality and quantity of blood. The red corpuscle count rapidly approaches the normal. In patients whose blood pressure was subnormal, it is usually permanently increased. In this connection, Dr. C. S. Porter, the authority on Milk Treatment, says:

"Disease can only be cured by and through the circulating blood. This treatment makes the **purest and richest blood possible and always increases its amount and rapidity of circulation.**"

3. An improved gastric and intestinal digestion with improved bowel action. Dr. Weir Michell truly says this of any fattening treatment: "The mere addition of blood and flesh is not what we want, but that their gradual increase will be the visible result of the multitudinous changes in digestive, assimilative and secretory power in which the whole economy inevitably shares."

4. A thoroughly cleansing of the whole system. The ingestion of five to seven quarts of fluid daily washes and freshens the blood in a most active way and aids in the solution and elimination of waste material. Likewise, the large solid residue of this bulky diet sweeps the bowel thoroughly. Thus toxic substances are removed from the tract and from the blood and with them go headaches, insomnia, and other toxic symptoms. Practically all Milk patients no matter how pale or sallow looking they previously were, acquire a clear, rosy, soft skin.

5. Marked improvement in the nervous system. Patients gradually become less irritable and sleep improves. Under the influence of rest, free elimination and ample nutrition the nervous system returns to poise and vigor.

6. Improved kidney function. From dark, concentrated, scanty urine there is a prompt change to clear and abundant kidney secretion. It is often surprising to note how quickly albumin and microscopic debris disappear from the urine under a Milk Cure.

Following are five common conditions in which the Milk-and-Rest Cure has proven to be indicated:

1. "**Neurasthenia.**" The large number of cases coming under this head makes patients suffer from disturbance of the gastro-intes-

tinal tract. Most of them are underweight and some of them are anemic. Rest, with feeding, obtains excellent results in these cases.

**2. Disorders of Digestion.** A Milk-and-Rest Cure is of the greatest value in the digestive neurosis and in faulty digestion due to visceroptosis. In the latter condition, at least, it has no rival. The deposit of large amounts of fat within the abdomen, plus calisthenics to give a strong abdominal wall, restores the lowered or negative intra-abdominal pressure. When this has taken place the stasis and the splanchnic dragging of ptosis are at an end. In the treatment of ulcer of the stomach, six or eight ounces per hour are given up to three or four quarts per day; after all pain and burning have ceased the intervals of feeding are shortened and five or six quarts are given. In cases of partial obstruction of the outlet of the stomach, following ulcer, nutrition may best be maintained by the use of milk.

**3. Colitis.** Results in chronic colitis of nervous origin are very satisfactory.

**4. Kidney disease.** Milk is used advantageously in acute nephritis, the quantity varying from four to six quarts a day depending on the severity of the disease, the amount of kidney involvement, the presence of edema or ascites and the weight of the patient. The urine always shows marked improvement in the quantity excreted, and in the pathological findings.

**5. Anemia.** Anemias of the secondary type due to malnutrition, chronic malaria, etc., respond very nicely to the Milk Treatment. The quantity of blood is increased as are also the number of red corpuscles and the percentage of hemoglobin. These patients almost invariably have weakened digestive secretions. They have poor digestion and often little appetite. They have neither the inclination to eat nor the ability to digest and assimilate sufficient solid food to enable them to rebuild their depleted organs and blood and regain their former strength. The Milk Cure furnishes in these cases an ideal forced feeding diet. A good appetite is not essential for the consumption of large quantities of milk and it can be digested and assimilated without the normal amount of gastric juices. In fact, some of our best results have been obtained

in patients whose gastric secretions were far below normal. Decreased gastric secretion with hypoaecidity is not a great impediment to the digestion of milk because the greater proportion of milk digestion is performed in the small intestine.

#### Dislike for Milk.

While a dislike for milk on the part of the patient is unfortunate, it is not a contraindication for its use. This is usually overcome after the first few days. However, even if it is not, it is necessary a hindrance.

The prospective Milk Patient's **former experiences with milk drinking under conditions other than those of a Milk Cure are of no value or weight.** Patients who say they never could take milk without becoming "billious" or that they never enjoyed it as a beverage, do as well as others.

#### Why So Much Milk?

Enough milk per day must be taken to create new circulation, new cells and new tissue growth and to insure rapid elimination of waste. Four quarts of milk containing four per cent of butter fat and nine per cent of other solids will enable the patient to gain some weight, but with the addition of one or two quarts or more to this amount he will **secure the necessary energy and stimulation to throw off disease and to build tissue rapidly.**

#### Why Not Give Eggs and Less Milk?

We are sometimes told that Mr. — took six eggs and three quarts of milk a day and gained fifteen pounds. On inquiry it usually develops that the increase was of tedious slowness and attended with toxic days and bowel irritation. As for the comparative food value of the two, a quart of milk is equivalent to nine eggs. This fact alone renders eggs uninteresting in this connection. A real objection to them is that they are one-half protein. Any addition of protein to a diet of milk is deplorable, for it unbalances a ration already full rich in that element and invites toxemia.

Following are the figures that show how an average subject for the Milk-and-Rest Cure can gain five pounds per week. The patient taking between 5½ and 6 quarts of milk per day receives 4000 calories is sufficient for the upkeep of a patient at rest. Therefore one-half this intake is gain. Milk is

13 per cent solids. 13 per cent of  $5\frac{3}{4}$  quarts or 184 ounces in 24 ounces. If one-half the solids is to be profit, the result is 12 ounces or  $\frac{3}{4}$ -pound per day—5 pounds per week.

#### **Is Not the Treatment Weakening?**

This question is often propounded. The one asking it is probably recalling his feelings of weakness on getting up from an illness in bed. Probably he had fever and pain and very "light" nourishment. Of course his strength left him. The Milk-and-Rest Cure patient does not have this experience. He remarks that his muscles were never so large and firm. Rest is not weakening unless carried over a long period, when disuse inaugurates changes in the muscle structure. Exercise improves muscles, not by breaking down muscle tissue, surely, but in spite of it by enhancing muscle nutrition. The large protein content of a Milk Cure ration notably builds up muscular tissue which then needs only a few days of exercise to become fit.

#### **Preparation of the Patient.**

Undue haste in instituting the milk ration is ill-advised. Time will be gained by allowing three or four days of rest and preliminary treatment. This preparatory period is devoted to regulating the habits and to administration of baths and any other treatments required to cleanse and invigorate the digestive tract and render the conditions of the cure auspicious.

#### **Method.**

The milk is delivered from the dairy in the morning and evening and kept in refrigerators at 48 degrees. Beginning at 8.00 A. M., it is carried to the patient throughout the day, the temperature and cream content being prescribed as benefits the individual case. One glass, containing five to eight ounces, as directed—is drunk every half hour, the last glass coming at 7:00 P. M., approximately.

One's maximum weight in health is usually the goal in the number of pounds to be attained. Reference to tables of average weights of healthy men and women of various heights and ages is also of value. Having determined the amount desirable to be gained the length of treatment can be estimated at the rate of from 4 to 5 pounds per week. Four or five weeks is the usual duration of the Cure. The reader will understand that in this speaking of the end-re-

sults of treatment in terms of pounds, we do not mean that added avoirdupois is the real object sought; but rather is an index of the restoration of the bodily integrity. In a small minority of cases, additional weight is undesirable. The modifications of the regime in this class can not be covered in this paper. The 100 per cent man or woman is the aim of treatment.

#### **After Effects and Permanency of Weight Gained.**

One of the most frequent questions asked is, "Will not the weight gained while drinking milk disappear after going back on solid food?" In the vast majority of cases Milk Cure graduates have kept their weight, while a great many have continued to gain, after going home. This proves that the Milk Cure is not merely a temporary "fat producer" but that if, patients exercise care in their habits of living, the results obtained will not only be permanent but they will serve as a foundation on which they can continue build.

The writer's convictions concerning the exceptional efficacy, in suitable cases, of this intensive tissue-building method are supported by hundreds of records accumulated during an experience of six years in its continuous use.

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### **PRE-CANCER AND CANCER.**

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By M. B. Hutchins, M.D., Atlanta, Georgia.

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In the mass of experience and literature covering experimental production of cancer in animals and fowls, clinical and pathologic observations and results of treatment of human cases we find neglected a few salient points. Without being able to present actual figures, it can definitely be stated that there are thousands of harmless moles to every one that becomes malignant, probably as many hyperkeratoses, and, in proportion to their frequency, an equal number of leukoplakias. While the tendency of all breast tumors is to ultimate cancer, and the scars of abscess may so degenerate, not all do. This is also true of mastitis and of trauma. Every inflamed breast does not undergo malignant change, nor does every

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bruise so terminate. Few smokers have cancer, nor do all jagged teeth cause cancer of the tongue or lip. Given, however, the cancer tendency, the "vitamin" needed for the origin and growth any lesion or injury will set off the fuse, cancer seeming rarely to spring from normal tissue. Ulcer of the stomach and other chronic irritations do often lead to cancer others do not. Unrepaired cervical lacerations may persist for years with only scar and engorged mucous membranes, never becoming malignant. What the vitalizing force is we do not know, but in so much as we do know that repeated or chronic irritation and persistence of an abnormal growth or old scar or disease, as lupus or syphilis, may lead to cancer however small the percentage, these potentially vicious lesions should be removed or cured. Often this will not be permitted save in case of inflammation, ulceration, physical or psychic discomfort, or evident continued growth. Moles of skin color or one of the shades of brown rarely develop epithelioma unless constantly injured, and require much trauma for that evolution.

"Blue grape" or slate colored pigmented points, areas or elevations, are the most uniformly dangerous, capable of originating the greatest diffusion of malignant growths, properly called melanomata.

These primary lesions should be removed most thoroughly and widely, as even slight irritations and imperfect treatment serve to cause wide dissemination.

A little blue-black mass in the choroid, alongside a finger nail—melanotic whitlow—or on any part of the skin, may become the focal origin of tumors in every part of the body.

Primarily many skin lesions are removed purely for cosmetic reasons, others through fear of cancer, and the rest because of imminence of this disease. The least we can do in all cases is to be thorough, whatever the nature of the lesion.

European opinion to the contrary, very few leukoplakias of mouth, tongue or vulva are of syphilitic origin. Certain of these lesions become malignant. They may be destroyed or removed before this development, or, if the patient objects, kept under observation. All breast tumors should be removed, all the least suggestive of cancer demand the approved massive dissection, one

or another of modern operations.

Regardless of family history, and for the patient's physical health and comfort, old lacerations of the cervix should be properly repaired, this further ensuring safety from malignance.

A "cancer" family history does not always mean that any one of the "blood" having an abnormal growth on lesion must necessarily become cancerous, as illustrated by the eldest sister of a family having abscess and practical destruction of the breast living about 49 years with no evidence of malignance, the next sister meanwhile having died of uterine cancer, and the younger sister and the daughter of the abscess breast ease of mammary carcinoma. The husband died of cancer of the face.

That certain people and animals have a positive immunity there can be no doubt, but we are not in possession of any means of knowing who these are, and until we do know we should not presume that it exists in any ease. Education of the masses as to the dangers of various potentially cancerous lesions meets its greatest obstacle in their psychology and the advice of ignorance. Numbers go on to a helpless stage through belief that interference will produce cancer or hasten the end if already present. Added to this is the curiously malignant characteristic of this disease to produce practically no discomfort nor pain until in the terminal stages, and the fact that the majority of victims of cancer are in robust health when first attacked.

As to the treatment of lesions or growths—be they potentially dangerous, precancerous or actually malignant—there can be but one basic principle, complete destruction or removal. Any measures falling short of this exaction may produce the disease sought to be prevented or malignance already existing, hasten the end. Certain mild lesions offer choice of treatment, others are so situated as to preclude surgical removal, others are self-evidently amenable to nothing but surgery, and a large number remain in the hopeless class of those in which palliative and but possibly curative means must be employed. As stated in a previous paper, we have at command sufficient armament for the cure of all cases of cancer discovered early and small enough and even for some that seem beyond cure, but are as helpless in ad-

vanced cases as the medical man with his last stage consumptives.

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### THE QUESTION OF DIAGNOSIS IN THE CASE OF A PATIENT COMPLAINING OF "INDIGESTION."

By Geo. M. Niles, Atlanta, Ga., Ph. G. M.D.

The broad gateway through which the majority of patients come, who present themselves to the gastroenterologist for treatment is labeled "indigestion;" and under this term are commonly included all forms of discomfort in the abdomen, especially in that zone which embraces the epigastrium and the two hypochondria, and extending horizontally to the back.

This discomfort may be one of sensation, the cry of distress being carried by sensory nerves. In this class it may occur as a more or less defined sense of local fatigue, up through the ascending scale of weight, of pressure; of dragging; of aching—dull or sharp, of pain—dull or sharp, intermittent, remittent, or constant; of internal irritation, as of burning—which the patient may call an internal acidity; of emptiness; of hunger; of nausea; of desire for pressure or heat externally, or heat internally through food or drink; of stagnation, as though the food lay heavily like an incubus in the stomach; of over-activity, as though the food was rushed through the stomach like coal down a chute. These discomforts may appear before, during, or after eating; may be mitigated or aggravated by eating or drinking, or may not be affected at all by food or drink.

Then this discomfort may be one of action, the signal being carried through the motor nerves. Then it may occur as an over-active or noisy peristalsis, which may be both felt and heard; as an intermittent or remittent reversed peristalsis, driving before it through the esophagus, pharynx, or mouth, gaseous solid or liquid gastric or duodenal contents—in the form of eructations; or of regurgitation or vomiting of food or secretions, or of both; or as decreased peristalsis, causing arrest or detention of gastrointestinal contents.

These sensory and motor phenomena are usually accompanied by some degree of related or reflex secretory, nutritive, visceral, circulatory, respiratory, neuro-muscular, or psychic disturbances.

From time immemorial in the presence of these grouped phenomena, the medical profession and the laity have made the indefinite diagnosis of "indigestion," and have labored to increase the digestibility of foods, or to increase the digestive powers of the sufferer. This line of thought and endeavor has brought success in some instances, egregious failure in many.

The difficult branches of physiology and its first cousin, living pathology, have only slowly been able to explain both the successes and failures. It is especially due to the stimulus of these branches, corrected and enlarged by clinical observations and aseptic surgery, that we are acquiring a new viewpoint of the physiology and living pathology of the abdominal viscera, of the relation between the objective conditions and the subjective manifestations; and of the intermediate steps preceding the terminal lesions noted in autopsies.

Reflection over the observations made along these lines shows us that many of the symptoms of so-called "indigestion" are really symptoms of definite pathologic conditions. In this statement I am sure the surgeons will concur.

Anatomically we recognize the organs belonging in the middle zone of the trunk, and we have come to recognize that one or more of these well-known organs may change their location within this zone, or even depart from it; that the viscera of the upper zone of the trunk, the thorax, may so descend, without entering the abdominal cavity, as to displace to an extent these middle zone viscera; while the viscera of the lower zone of the trunk may so ascend as to form a part of the contents of this middle zone, within the abdominal cavity, altering more or less the locations and relations of the organs belonging there.

We have further learned, and most forcibly too, that this middle zone of the trunk, and especially that portion of it which we call the epigastrium, acts as a reflex alarm center for the whole body; and definite evidence exists that pathologic conditions causing symptoms referred to this region may



be found in any organ or tissue of the body; but it is especially liable to be found in the viscera lying in the abdomen.

Hence, in attempting to locate a pathological condition causing symptoms in the middle trunk zone, we must try to exclude (1) All causes lying entirely outside of the abdomen—for example, tuberculosis, tabes, anaemia, all forms of toxemia, arteriosclerosis, lesions of the pelvic thoracic, or cerebral organs, etc. (2) All cases lying anywhere within the abdomen in a viscous normally belonging outside the upper abdomen or middle trunk zone—remembering that some of these outside viscera may be displaced upward into this zone; for example, affections of the appendix, cecum, or segments of the colon. (3) We should exclude cases lying in the walls of the abdomen, which latter form the main defense of the viscera against external trauma, and against dislocation and injury by gravity, traction, etc.

We thus arrive at the viscera normally belonging in the upper abdomen or middle trunk zone, remembering that these viscera may be displaced within the limits of this zone, or partially or entirely outside of its limits. For example the stomach may be found to be displaced as a whole; the body may be displaced, the pylorus remaining in normal position; or one or both curvatures may be displaced. Again, the gall bladder may be found misplaced upward or downward, or it may be adherent to any of the viscera which it meets in its perigrinations. Again, the kidneys, especially the right, may be found anywhere between their normal location and nearly any point in the pelvis.

Coming to a diagnosis with this anatomical physio-pathological and clinical knowledge in mind, the first step will be to exclude all causes coming under heading (1) viz., causes outside of the abdomen. In some cases this is easy; in others there are presented some of the most obscure problems in diagnosis. In all cases, however, no matter how clear may be the presumption that a sufficient cause exists elsewhere in the body, the diagnosis should not be considered established till affections of the abdominal wall and of the middle zone viscera are excluded.

The question of incompetence of the abdominal walls is of importance, for in my ob-

servation, this one factor is capable of producing such changes in the abdominal viscera as develop the conditions which logically underlie the development of the common affections of these viscera.

In studying the upper abdominal organs, it must always be remembered that they may be displaced within the limits of this zone, or that they may be displaced partially or entirely outside its limits; and also that no matter where they wander, their ultimate proximal attachments and their afferent and efferent nerves are still derived from the original sources in the upper abdomen. Hence, in both increased and decreased mobility of these, as well as of the other abdominal viscera themselves, must be considered; and the effects as of the traction which may be exerted through the attachments to the related viscera.

The subjective manifestations of this visceral traction, accompanied as it may sometimes be by kinking and torsion, are not easily proved up to the limits of pronounced obstruction; but their existence can not be doubted by the thoughtful student, when one remembers the demonstrated effects of such conditions elsewhere, and it is from this ill-defined and heterogenous mass of symptoms of so-called "indigestion" that it is our endeavor to evolve an intelligent diagnosis.

Given an incompetent and hence displaced abdominal wall, we are necessarily led to diagnose more or less displacement of some of the abdominal viscera, with the possibility of already begun traction and its attendant evils. And when some of the symptoms mentioned disappear, as for instance when the effects of gravity are antagonized—either by placing the patient in the recumbent or somewhat inverted position, or by increasing or supplementing the supporting power of the abdominal walls by external methods—then these symptoms may be logically interpreted as an outward expression of visceral displacement.

And, furthermore, when this relation between abdominal incompetence and visceral displacement, with traction, kinking and torsion in the perspective is borne in mind, and when we remember the demonstrated tissue changes elsewhere as the result of such traction, kinking and torsion, the reflection is forced upon us, that some of the definite lesions of the upper abdominal viscera such as



atony, motor insufficiency, dilatation and ulcer of the stomach, lesions of the duodenum and gall-bladder, etc. are the indirect or remote effects of such traction, kinking or torsion.

To see, as I have occasionally seen, varied symptoms of indigestion, mental depression, and bodily ineptitude disappear almost like "the figment of a vision" after a flabby and incompetent abdominal wall has been "jacked up," as it were by a snug adhesive abdominal supporter, causes me to believe that in many instances we have not given the subject of visceral displacement enough importance.

Lest I be misunderstood, and at the risk of repetition, I wish to summarize as follows:

(1) Symptoms of so-called indigestion group themselves as sensory and motor phenomena referred to the abdomen, but especially to upper abdomen or middle zone of the trunk.

(p) From time immemorial the diagnosis of "indigestion" has led to the treatment of these phenomena by efforts to increase and enerve the digestive power of the patient. These methods have been successful in many instances, but failures have also been numerous.

(3) Observations made in laboratory by the roentgen ray, and of animal experimentation, corrected and enlarged by clinical observation teaches us that this middle zone of these successes and failure; and have raised a presumption that many of the symptoms of so-called "indigestion" are symptoms of definite pathological lesions—and not simply functional manifestations.

(4) We must constantly bear in mind the possibility of displacement of the viscera in the middle zone of the trunk, or those outside of it.

(5) Clinical and physio-pathological observation teaches us that this middle zone of the trunk and especially that portion called the epigastrium acts as a reflex alarm center for the whole body, and that a pathological condition in any organ or tissue of the body may set up symptoms referable to this region.

(6) In attempting to locate a pathological condition causing symptoms in the upper ab-

domen, errors are most likely to be avoided by first excluding all causes lying entirely outside of the abdomen.

(7) Next affections of the abdominal wall and abdominal viscera should be excluded.

(8) The question of incompetence of the abdominal wall is of high importance, for in my observation, this one factor is capable of producing such changes in the abdominal viscera as develop the conditions which logically underlie the common affections of these viscera.

(9) No matter where the viscera are displaced, their ultimate proximal attachments and their afferent and efferent vessels and nerves are still derived from their original sources in the upper abdomen.

(10) Whenever the abdominal viscera are displaced, traction, with or without kinking and torsion cannot be excluded, and the pathologic effects of such traction, kinking and torsion have been abundantly demonstrated elsewhere in the body.

(11) In the light of the foregoing, we should give due weight to possible primary or remote effects brought about by misplaced viscera.

These remarks, I trust, will give my hearers some food for thought, when making a diagnosis of a patient complaining of indigestion.

## THE FIELD OF NEUROLOGICAL SURGERY.

By Dr. Y. C. Lott,

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There is no field today in any branch of either medicine or surgery that has been neglected more than the surgery of the nervous system. It has been held in the background because, first, the diagnosis is difficult to make, and second, after a late diagnosis is made, surgical intervention offers little. Neurological surgery is at the stage today where abdominal surgery was thirty years ago from the standpoint of diagnosis. Today surgery has nearly reached its perfection (figuratively speaking) by accurate early diagnosis and thorough surgical technique, to such a point that the mortality is relatively low, and the results obtained are ex-

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cellent. The axiom that tissue once destroyed can never be replaced, is more true in the surgery of the nervous system than in any other part of the body; therefore, the earlier the diagnosis the better the prognosis. Many of the obscure conditions regarded once as hopeless, are not so regarded today, for by modern methods we can make an early diagnosis and render surgical aid before it is too late. We are standing upon the threshold of a specialty full of undeveloped opportunities, the field of which is so large; so little has been done; so much can be done, so that I shall therefore make but a brief review of the various organic conditions affecting the nervous system.

Very much has been and can be written upon defective children, either mentally or physically. Seventy per cent of these defective children are due to an intracranial hemorrhage at birth. It is this type that I shall speak about. Seldom does the hemorrhage occur subcortically. If the hemorrhage does occur below the tentorium the infant will soon succumb. It most frequently occurs from a rupture of the cortical vessels over the most upper part of the parietal lobe. Here the parietal bones override each other and the greatest tension is brought to bear on the cortex as it is squeezed at this point to form a wedge for the engagement in the pelvis and especially more so if forceps are applied, or if pressure upon the fontanelles is produced in attempting to change the presentation. The delicate cortical vessels will rupture and the blood will extend down over the cortex along in the sulci over the parietal lobe and thus showing an impairment in the opposite side of the body, it may extend farther down over the motor area, when convulsions will develop, then the child is impaired mentally as well as physically. In later years if this blood is not allowed to escape you will find a thick tense opaque dura; along the sulci will be a cloudy smoky film beneath the pia arachnoid; the cortex is wet, edematous, swollen, pale and an excessive amount of cerebrospinal fluid, or there may be a large bluish cyst supracortically or subcortically with the destruction of the surrounding brain tissue. If these children can be improved, after a few years have elapsed by an operation, then unquestionably an early diagnosis is most valuable and the results obtained will be better

the earlier the condition is removed after the injury. If the dura were incised, the blood clot allowed to escape, and the intracranial pressure removed within the first few days of life, we would get normal children that would be otherwise impaired either mentally or physically. Should there be prolonged high intracranial pressure, the brain cells cannot develop, due to poor blood supply and a wet, edematous, swollen brain, then you cannot get a normal child. If we wait for the child to outgrow the condition or for the clinical signs to become established, then it is too late for the best results to be obtained, but even at this late date these unfortunate children can be improved by one or two decompression operations according to the degree of pressure. I cannot lay too much emphasis upon the importance of an early diagnosis of pressure which can be easily made by ophthalmoscopic examination of the fundus of the eye, in which the nasal margins may be blurred, a general oedema or papilledema exist owing to the degree of the intracranial pressure, or, second, by a lumbar puncture in which the cerebrospinal fluid will be under pressure as recorded by the manometric spinal manometer which is the most accurate method we have today. The normal pressure of the cerebrospinal fluid is from 5 to 9 mm., with the patient perfectly quiet—the head and spinal column being on a level. If a lumbar puncture were performed at this early date in the mild cases to relieve the pressure which is the chief impediment, then the first step towards the real cause will have been accomplished and may possibly save the child from the future impairment. Though not a rational procedure it is the best therapeutic measure to be obtained short of a major operation. It is indeed remarkable the amount of trauma to the brain an infant or even a child can withstand and show such little after effects as compared to the adult. Every child born following a precipitate, prolonged or difficult labor, especially if instruments are used, and has convulsions within the first few weeks of life, should be regarded as the danger signal of beginning impairment. Very frequently the infant will not have convulsions owing to the extent and place of hemorrhage and the first signs noted then would indicate either the infant is dull and stuporous during the first few weeks of life



and then become very irritable, crying incessantly, or later on the mother notices that the child cannot hold up its head; the child is very slow to sit alone or to take notice of objects. The appetite is poor, the digestion bad, and the bowels are usually constipated. Consequently the physician suspects that the child's retardation is due to an error in the diet. The underlying cause, however, not being suspected of an intracranial condition. Soon there is noticed a weakness of its extremities, the child is very backward in learning to walk and talk, and may now begin to have convulsions and show a definite spasticity of its hands and feet. These children, at this late date, will show signs of pressure and the remains of a hemorrhage, and can be improved with a decompression operation. A child may give similar symptoms and have very little or no pressure, as in meningitis, or lack of development, then an operation will be of not benefit unless in an acute stage of meningitis. Then only chance of improvement would be from the glandular therapy, massage, or specific treatment. There is a tremendous opportunity just being developed along the line of endocrine therapy in children with internal secretory derangement.

Hydrocephalus has been regarded hopeless and the bane of the surgeon, but by a decompression operation and drainage of the cerebrospinal fluid either from the ventricles as in internal hydrocephalus, or from the cortex in the external variety by means of linen strands recently advocated by Dr. William Sharpe, and brought out through the muscle and fascia under the scalp in the temporal region: new artificial channels lined with endothelium are formed as the strands become slowly absorbed and permanent drainage obtained. The best results are obtained in the external variety, but if due to a meningitis then the results are better; the vision is saved, growth of the head is checked, intracranial pressure lessened or relieved and the child has a definite chance to develop both mentally and physically provided this is done early before the tissues have become destroyed, otherwise nothing can be done.

Another group that is equally as important in which very little has been done and yet every kind of treatment tried, is known as obstetrical paralysis. During delivery the shoulder is forcibly retracted from the head

and putting the brachial plexus upon tension to such an extent that the nerves are either stretched, a hemorrhage occurs in and around the myelin sheath, or the nerve fibers may be torn. The hand becomes paralyzed immediately and the family physician suspects a shoulder dislocation which very seldom occurs. The hand assumes a characteristic posture by internal rotation and backward displacement. The child is unable to raise the arm or elbow and in the severer forms to flex the fingers. The brachial plexus injury can be easily differentiated from a shoulder subluxation by an X-Ray examination and palpating the parts, or from poliomyelitis by the history of placed paralysis coming on later after birth. Some of these cases will improve owing to the extent of injury, but if there is none or very little improvement by the first month, then the plexus should be explored, all the scar tissue about the plexus removed and the myelin sheath opened, thus relieving the constriction. Most frequently there is a hemorrhage within the myelin sheath at the junction of the 5th and 6th cervical nerves. Should the nerve be torn, which is infrequent then the torn ends are anastomosed and the hand placed over the head for three months or for such a time according to the injury. Then frequent general massage is given, electrical stimulation having very little value. Should the nerve roots be torn from the cord then nothing can be done. The ideal time for this operation is at one month of age. The operation is then performed in the crease of the neck, one-half inch above the clavicle. No anesthesia being necessary, plexus is easily exposed, and there will be no visible scar in later years. If this paralysis persists unchecked for a few years then there can be improvement only because the pectoral and subscapula muscles are undeveloped and spastic, and you cannot get the proper function with the opposing muscles, hence tenotomies will have to be performed in conjunction with the brachial plexus exploration for the best results to be obtained and to get a movable shoulder joint.

Spina bifida is very frequently associated with hydrocephalus and is hopeless unless repaired immediately. There is a diastasis of the laminae and cauda equina nerves are frequently adherent and enmeshed to the sac, hence the paraplegia. The treatment is



the same as in any other hernia in that the nerves are freed from the constricting mass, like tissues are plicated together, and the healthy skin edges being approximated like the letter S to prevent tension upon the sutures and sloughing. No attempt should be made to bring the bony arch together or to transplant bone. After the hernia is repaired the patient should be watched closely for an internal hydrocephalus. It is now believed that the hernia is due to a blockage of the cerebrospinal fluid from a meningitis early after birth or during intrantrine life, in the base of the brain, thereby, increasing the intraspinal pressure. The lumbar region being the weakest in the spinal canal will give way first.

It was once regarded that a person with a fracture of the skull is never normal again. Fractured skulls are very frequent, by no means rare and often overlooked in mild cases. A fracture in itself is very simple and demands very little treatment, unless depressed or compound. It is the effects from the fracture that demand a very close study and careful treatment. The depressed fracture should be removed immediately provided the patient is not in too much shock. These cases showing signs of high intracranial pressure either from an intracranial hemorrhage, or a wet edematous swollen brain, should have a large decompression operation as early as possible after the patient has recovered from the shock. If the patient is in profound shock, or is in a stage of medullary adema, as shown by a rapid rise in pulse, respiration, and temperature from the high intracranial pressure, then an operation will be fruitless and the patient will do just as well without the operation. It is in the mid group cases that most can be accomplished. Cases that decompress themselves either from the hemorrhage of the ear or nose, will as a rule take care of the condition, excluding meningitis in addition to free catharsis and ice helmet to the head. The ears should never be packed or syringed to check the hemorrhage for then you defeat nature's effort and increase the chance for an infection. A large pad of sterile gauze is placed against the ear and the patient required to lie on that side, thus facilitating drainage. In elderly people their position should be changed very frequently and given atropine to prevent a hypostatic pneumonia or pulmonary

edema. Very frequently in mild cases that do not have high pressure either from a hemorrhage or a wet edematous swollen brain, repeated drainage of the cerebrospinal fluid by lumbar puncture will suffice, hasten the recovery, lessen the headache, and the various traumatic neuroses resultant from the pressure. Lumbar puncture should be performed in cases of suspected intracranial injury first to establish a diagnosis, and second as a therapeutic measure in selected cases. In treating fractured skulls from a standpoint of pressure, the mortality has been lowered from 75 per cent to 19 per cent, or 29 per cent including the moribund cases that dies within twelve hours after injury. The traumatic neuroses and epilepsy have been likewise diminished. The treatment of pressure is therefore of prime importance in fractures of the skull whether acute or old. The same is true in spinal cord injuries. As soon as the patient is out of the shock, and the signs of myelitis, compression or paralysis are present, and exploratory laminectomy at the seat of the injury should by all means be performed to give the patient his best chance. By waiting you have taken the best chance away, for the patient is constantly losing ground; a degeneration is taking place in the nerve tracts; a syngitis develops and will bring an end to the suffering. Whereas, if the cord is only compressed, the result will be excellent, otherwise hopeless without a spinal decompression immediately after the injury. A decompression is not performed properly unless the dura is left open so the brain or spinal cord can pulsate when the pressure is relieved.

The branch in Neurological Surgery that has the worst outlook in which such little can be offered, is that of brain tumors. Practically 70 per cent are malignant and cannot be removed without making the patient worse. The best we can offer is only a temporary improvement in headache, vomiting, vision, etc. Even brain abscess presents a better prognosis in regard to a cure. Most frequently the abscess is in the temporosphenoidal lobe which can be destroyed without clinical signs. It can be easily drained through a subtemporal decompression route and the only complication would be a meningitis. Seldom are we able to remove a tumor and get a cure, yet we are duty bound to

give such patients a chance for their lives. I may say statistics show that the subventricular growths and especially those of the spinal cord are more favorable and better to obtain results. Many a case that has vague symptoms in which a positive diagnosis cannot be made can be very much improved or benefitted by an exploratory laminectomy. A diagnosis by eyesight is far better than by signs and theory. Certainly it is our duty to give a patient the benefit of the doubt where there is no response to other forms of treatment and the chance for recovery very slight. The results obtained will far offset those not obtained and surely the end would justify the means. If we wait for the classical symptoms to become manifested in surgical conditions then the destructive changes in the cord have taken place and you cannot get a regeneration of the tissues. I most emphatically urge a laminectomy at the earliest possible moment or when level symptoms appear pointing where to explore, regardless of the diagnosis. We would then save many a cripple that would be otherwise doomed.

In selected cases of poliomyelitis a neurolysis in the cauda equina region can be performed by joining healthy nerves to the diseased ones and get a regeneration of the nerve and give the paralyzed child a chance that would be otherwise hopeless.

There is nothing more gratifying both to patient and surgeon than the permanent relief of pain in trifacial neuralgia, the cause of which is still in doubt. Several theories have been given and explored. Alcohol injections into the nerve sheath will give only temporary relief, and should be performed several times, when only one branch is involved, before subjecting the patient to the radical operation. When more than one branch is involved, then the removal of the gasserian ganglion with evulsion of the posterior root from the pons should be performed for a permanent cure. Occasionally pain returns if the ganglion is only destroyed and the posterior root not severed or extracted. The only untoward effects to be expected are facial weakness, numbness, loss of sensation and corneal anesthesia. Alcohol injections into the ganglion are to be condemned, for its mortality is higher than that of the radical operation, which is very, very low.

There is nothing more taxing or trying on

the Neurologist than a persistent facial paralysis. When there is a degeneration of the nerve or a central involvement then there is only one recourse to be done and that is a neurolysis with a part of the hypoglossal nerve. In this way you get healthy nerve fibers to grow in the course of the degenerated nerve tract, and an improvement, though slow, will result. Very little has been done, and much may be done in peripheral nerve surgery, especially in selected cases of chronic poliomyelitis. So far there has been very little improvement in treatment and results, either by the Internist or Neurologist, in acute cases of Poliomyelitis. I dare say that the day is not far distant when surgery will offer a ray of hope in selected acute cases, and the same is true in septic meningitis.

Fairly good results have been obtained in the repeated lumbar punctures both to relieve pressure and for drainage. This is my mind is more feasible than the injection of medicinal agents. It is the edema from the infection that causes the sudden paralysis. If the edema persists long there will be an atrophy of the anterior horn cells, hence the permanent paralysis.

In apoplexy there has been very little hope but in selected cases of those that have high intracranial pressure, either from a cortical or a ventricular hemorrhage, surgery can offer a ray of hope in a decompression operation for the pressure and drainage of the blood. It is the pressure that causes the medullary edema and then death.

Until recently general paresis was regarded hopeless, but we know that it can be checked or improved with the radical treatment of intraventricular injections of salvarsanized serum. Experiments show that dye injected intraventricularly permeates the entire substance of the brain, from within outward, in the direction of the cerebrospinal fluid flow. The medication is brought in direct contact with the pathology, hence we can make better progress in checking the condition than by the intraspinal intravenous, or intraarterial route with salvarsen.

We are living in an age marked by scientific progress, new ideas are replacing the old; facts are superseding theories; medicine and surgery is progressing by leaps and bounds. Conditions regarded as hopeless yesterday we know are not so today, and no one can tell what tomorrow will bring forth.



# THE JOURNAL

OF THE

## Medical Association of Georgia

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EXCLUSIVE PUBLICATION: Articles are accepted for publication on condition that they are contributed solely to this journal.

CONTRIBUTIONS TYPEWRITTEN: Authors should have their contributions typewritten—double-space and with ample margin—before submitting them. The expense is small to the author—the satisfaction is great to the editor and printer. We cannot promise to return unused manuscript, but try to do so in every instance. Manuscript should not be rolled or folded.

ANONYMOUS CONTRIBUTIONS whether for publication, for information, or in the way of criticism, are consigned to the wastebasket unread.

NEWS: Our readers are requested to send us items of news of a medical nature, also marked copies of local newspapers containing matters of interest to physicians. We shall be glad to know the name of the sender in every instance.

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H. M. Lokey, M.D.

## PROGRAM.

Seventieth Annual Session, Atlanta, Ga.  
April 16, 17, 18, 1919.

## INFORMATION.

Headquarters.  
The Piedmont Hotel.

## Meeting Place.

Wesley Memorial Church.

## State and Municipal Health Officers.

This Section will hold its Annual Meeting at Wesley Memorial Church Wednesday night.

## CANCER COMMISSION.

The Commission appointed by the Medical Association of Georgia for the Study and Control of Cancer, acting with the Fulton County Medical Society, and the Atlanta Woman's Club have arranged a public meeting for the evening of April 15th at Wesley Memorial Church, the meeting to be presided over by Dr. J. W. Palmer, President, Medical Association of Georgia; two addresses, one by Dr. Frederick L. Hoffman of the Prudential Life Insurance Company, the other, by Dr. Francis Carter Wood of the George Crocher Cancer Research Fund, Columbia University, New York City, will be delivered with lantern slide demonstrations.

## Membership Cards.

In order to facilitate registration it is urged that every member be prepared to



show his membership card at the registration desk, where badges will be provided.

No member will be allowed to participate in the meeting unless provided with an official badge.

### Clinical.

The Association has accepted an invitation for its members to be the guests of the Officers of General Hospital No. 6 at Ft. McPherson, for the entire day of Thursday, April 17th. Cars will be provided to carry members, and the regular sessions will be held at the Red Cross House at the main entrance. After the preliminary business session held at 10 A. M., the members will be conducted to the various wards and shown the methods of treating the wounded and sick soldiers. The methods and uses of the Dakin solution in medicine and surgery, the orthopedic appliances splints and limbs, the electro-hydrotherapeutic apparatus, will be demonstrated, treatment of empyema in different stages shell shock, reconstruction and re-education, followed by surgical operations done under spinal anaesthesia. The President's Annual Address will be delivered, followed by a Military Luncheon in the Mess Hall. The afternoon will be devoted to papers by distinguished guests of the Association, presented at the session to be held in the Red Cross House. After adjournment, a Base Ball game will be played by opposing military teams.

### Subscription Dinner.

The Annual Subscription Dinner will be held at the Capitol City Club. Tickets will be on sale at the regular sessions of the Association and must be procured by 3 P. M. of the second day.

The local committee intends that this dinner shall be **only as dry** as the law demands and objecting to "cruel and unusual punishment," no one will be allowed to make a speech. Certain other features, however, will be introduced that have been **censored** by the Chairman of the Amusement Committee and **passed** as being reasonably safe for all except the very young members.

Members appearing in evening dress will be presumed to be "**half shot**" already, and barring confession and certain information, the operation will be completed at sun rise.

The Officers of the Public Health Section,

will be empowered to adjourn this session at such time, as in their opinion, necessity demands.

### Meeting of Council.

The Annual Meeting of the Council will be held Tuesday evening preceding Association meeting, at Piedmont Hotel.

### Wednesday Morning, April 16th.

Meeting of House of Delegates at 9:30 O'clock.

Meeting called to order at 10:30, by the President:

J. W. Palmer, M.D., Ailey.

### Invocation.

Rev. Ashby Jones, Atlanta.

### Address of Welcome on Behalf of City:

Hon. Jas. L. Key, Mayor of Atlanta.

### Address of Welcome on Behalf of Local Profession.

Geo. M. Niles, M.D., Atlanta.

### Response to Address of Welcome.

J. G. Dean, M.D., Dawson.

### Report of House of Delegates and Committees.

### PAPERS.

#### 1. "Some Problems in Surgery of the U. C. Neck."

Edw. G. Jones, M.D., Atlanta.

#### 2. "Acidosis in Medicine and Surgery."

W. F. Westmoreland, M.D., Atlanta.

#### 3. "Blood Transfusion."

W. P. Harbin, M.D., Rome.

#### 4. "Aspiration of the Pouch of Douglas, as an aid in Differentiating Atypical Cases of Ectopic Pregnancy and Pyosalpinx."

R. A. Bartholomew, M.D., Atlanta.

#### 5. "Tonsillar Operations in the Army."

R. R. Daly, M.D., Atlanta.

#### 6. "Some remarks about removal of Tonsils."

A. G. Fort, M.D., Atlanta.

### RECESS.

### Wednesday Afternoon, 2:30.

#### 7. "The use of the Thomas Splint in Treatment of Knee Injuries. In transportation and Treatment of Fracture of the Femur."

O. L. Miller, M.D., Atlanta.

#### 8. "Operative Treatment of Retroversion of the Uterus. Report of 185 Cases."

Garnett W. Quillian, M.D., Atlanta.

#### 9. "Radium Therapy for Uterine Hem-

orrhages. Report of Cases."

O. D. Hall, M.D., Atlanta.

10. "The Value of a Sterile Diet in Infectious Diseases."

Chas. P. Ward, M.D., Atlanta.

11. "Empyema, Diagnosis and Management."

Eugene E. Murphey, M.D., Augusta.

12. "The Treatment of Diabetes."

Stewart R. Roberts, M.D., Atlanta.

13. "The Value of Blood Sugar Estimation in Cases of Diabetes Mellitus."

John Funke, M.D., Atlanta.

14. "What Constitutes an X-Ray Examination."

Geo. M. Niles, M.D., Atlanta.

15. "The Problem of Acute Gonorrhoea Solved by a Scientific Fool."

J. M. Anderson, M.D., Columbus.

16. "Urology in the American Expeditionary Forces."

Montague L. Boyd, M.D., Atlanta.

17. "Rules and Suggestions for Treatment of Syphilis, as used at College Clinic."

W. B. Emery, M.D., Atlanta.

#### RECESS.

Wednesday Evening, 8:00 O'clock.

M. M. McCord, M.D., Rome, Ga.

Chairman.

M. F. Haygood, M.D., Atlanta, Ga.

Secretary.

Public Health Section.

18. "Sanitary Dairying as a Prevention of Infant Morbidity and Mortality."

Dr. W. F. Brunner, Savannah, Georgia.

19. "The Vital Statistics Law in Georgia."

Dr. W. A. Davis, Atlanta, Georgia.

20. "Should Small-pox Vaccination be made compulsory before allowing a child to enter a public school in Georgia?"

Dr. W. F. Haygood, Atlanta, Georgia.

21. "The Medical Examination of School Children."

M. M. McCord, M.D., Rome.

22. "Vaccine in the prevention of influenza and pneumonia."

Capt. G. R. Moffit, Fort McPherson; T. F. Sellers, M. Sc., Georgia State Board of

Health, Atlanta, Georgia.

23. "An outline of the plans of the Georgia State Board of Health for 1919."

Dr. T. F. Abererombie, Atlanta, Georgia.

24. "Sanitary privies—types—their value in preventing soil pollution disease."

Dr. B. D. Blackwelder, LaGrange, Georgia.

25. "Venereal Disease Control in Georgia."

Dr. Jos. P. Bowdoin, Surgeon, U. S. Public Health Service, Atlanta, Georgia.

26. "Social and Public Health Nursing."

Dr. Carl C. Aven, Chief of Clinic, Emory University Medical School, Atlanta, Ga.

27. "Public Water Supplies as a source of Epidemic Disease."

Ray C. Werner, Director, Division of Water Analysis, State Board of Health, Atlanta, Georgia.

#### Thursday Morning.

Meeting to be held at Red Cross House, Fort McPherson. Take Trolleys, corner Ivy and Edgewood Streets, Atlanta, at 9:15.

Morning to be devoted in Clinics.

President's Annual Address, followed by meeting of House of Delegates at noon. Red Cross House.

Military Luncheon, 1:30, P. M.

Thursday afternoon, 3:00.

28. Illustrated Lecture.

George W. Crile, M.D., Cleveland, Ohio.

Col. M. C., N. A.

29. "Notes on Surgery of Peripheral Nerves."

W. W. Babcock, M.D., Lieut.-Col., M. C., U. S. A.

30. "Pneumonia."

II. K. Stinson, M.D., Maj. M. C., U. S. A. Inspection, General Hospital No. 6, Fort McPherson.

Thursday Evening, 9:00.

Subscription Dinner, Capital City Club.

(Cabaret.)

Friday Morning, 9:00

Wesley Memorial Church.

Report of House of Delegates.

31. "Georgia's Policy Toward her Feeble Minded."

V. V. Anderson, M.D., Atlanta.

32. "Surgery in a Base Hospital in France."

Frank K. Boland, M.D., Atlanta.

33. "Ureteral Stricture in Women."

W. F. Shallenberger, M.D., Atlanta.

34. "The Treatment of Constipation by Conservative Surgical Correction of Retardative Displacements of the Colon."

J. C. Pate, M.D., Macon.

35. "Use of Radium in the Treatment of Epithelioma."

Cosby Swanson, M.D., Atlanta.

36. "Ophthalmology During 1918."  
Dunbar Roy, M.D., Atlanta.
37. "Encephalitis Lethargica."  
James E. Paullin, M.D., Atlanta.
38. "A Study of the Effects of Influenza  
on Arrested Pulmonary Tuberculosis."  
Arch Elkin, M.D., Atlanta.
39. "The Feeding of Sick Babies."  
W. A. Mulherin, M.D., Augusta.
40. "Child Welfare: A Community  
Problem."  
W. L. Funkhouser, M.D., Atlanta.
41. "Carcinoma of the Breast Plus Sur-  
gical and X-Ray Treatment."  
W. A. Cole, M.D., Savannah.
42. "Traumatic Surgery of the Head."  
C. W. Roberts, M.D., Atlanta.
43. "Vertigo."  
E. S. Osborne, M.D., Savannah.
44. "Biologic Research in Pellagra."  
St. J. B. Graham, M.D., Atlanta.
45. "Food Conditions and Nutritional  
Disorders in Europe."  
Seale Harris, M.D., Birmingham, Ala.

(This paper to occupy time of any member  
absent Friday morning.)

**Friday Afternoon, 3 O'clock.**

**Election of Officers.**

President.

First Vice-President.

Second Vice-President.

Delegates to A. M. A.

Alternates.

**Councillors for**

Fifth District.

Sixth District.

Seventh District.

Eighth District.

**Organization of Council.**

## **PROGRAM FOR MEETING OF HOUSE OF DELEGATES.**

**Wednesday Morning, April 16th, 9:30**

**O'clock, Wesley Memorial Church.**

Call to order by President.

Enrollment of Delegates.

Report of Committees.

**Thursday Afternoon, 12:30 O'clock.**

Call to order by President.

Report of Committees.

Report of Delegates to A. M. A.

Report of Council.

Unfinished Business.

New Business.

## **PROPAGANDA FOR REFORM.**

B. Iodine and B. Oleum Iodine.—The Council on Pharmacy and Chemistry reports that while B. Iodine (The B. Iodine Chemical Company) is said to be "Nitrogen Hydrate of Iodin" and B. Oleum Iodine at 5 per cent. solution thereof, the examination made in the A. M. A. Chemical Laboratory indicates that the first is a simple mixture of iodine and ammonium iodid, and the second a solution of iodine in liquid petrolatum. The Council declared these preparations inadmissible to New and Nonofficial Remedies because: 1. The composition of B. Iodine is incorrectly declared. B. Iodine is not a newly discovered iodine compound, but a mixture of iodine and ammonium iodid. B. Oleum Iodine is not a 5 per cent. solution of B. Iodine as suggested by the statement on the label and in the advertising, but an 0.85 per cent. solution of iodine in liquid petrolatum. 2. Since the solution of B. Iodine in water will have the of other solutions of iodine made by the aid of iodid, the therapeutic claim made for it is unwarranted. 3. The names "B. Iodine" and "B. Oleum Iodine" are not descriptive of the pharmaceutical mixtures to which they are applied. 4. The preparations are unessential modifications of established articles. The first has no advantage over tincture of iodine or compound solution of iodine, and the second no advantage over extemporaneous solutions of iodine in liquid petrolatum (Jour. A. M. A., Feb. 1, 1919, p. 365).

Misbranded Nostrums—The following nostrums were declared misbranded under the Federal Food and Drug Act because of the false, fraudulent or misleading claims made for them: M. I. S. T. (Murray's Infallible System Tonic); M. I. S. T. No. 2, Nerve Tonic; Imperial Remedy; "Japanese Wild Cherry Cough Syrup"; "Japanese Herb Compound"; Dr. E. E. Burnside's Purifico No. 1; Dr. E. E. Burnside's Purifico No. 2; Dr. E. E. Burnside's Purifico No. 3 Emerald Oil; Bristol's Sarsaparilla; Dr. Belding's Six Prairie Herbs; Dr. Carter's K. and B. Tea; "Brazilian Balm"; "Renal Tea"; Las-I-Go for Superb Manhood; Blood Tabs; Dr. Miles Restorative Nervine; Kilmer's Swamp Root; Homenta; Hinkley's Bone Liniment; Kopp's Baby Friend; Kopp's Kidney Pills; Reuter's Syrup; Garfield Tea; Di-Col-Q; Sloan's Liniment; Bannerman's Intravenous



Solution; Cummings Blood Remedy; and Giles' Germicide (Jour. A. M. A., Feb. 8, 1919, P. 439).

Cerelene not admitted to N. N. R.—Cereleone, a paraffin preparation for the treatment of burns, was submitted to the Council on Pharmacy and Chemistry by the Holliday Laboratories with the statement that it was composed of 84 per cent paraffin, 15 per cent myricyl palmitate stated to be purified beeswax, and 1 per cent purified elemi gum, to which are added oil of eucalyptus, 2 per cent and betanaphthol, 0.25 per cent. It was stated that on "special order" Cerelens has been made containing oil of eucalyptus and resorcin, oil of eucalyptus and picric acid, and picric acid alone. The Council declared Cerelen inadmissible to New and Non-official Remedies because there was no evidence to show that this preparation had any advantage over simple paraffin of low melting point (Paraffin for films—N. N. R. because there is no proof that the medicinal ingredients leave the wax when it is used, and because the constituent "myricyl palmitate" has not been accepted for New and Non-official remedies (Jour. A. M. A., Feb. 15, 1919, p. 513).

Beef, Wine and Iron—So long as one of the largest mail order houses in this country continues to sell Vinum Carnis et Ferri, N. F. in gallon jugs, the sought from prohibition legislation may not be as noticeable as it might otherwise. Seriously, however, is it not about time for the professions of medicine and pharmacy to heave into the discard such utterly unscientific combinations "Beef, Wine and Iron." (Jour. A. M. A., Feb. 15., 1919, p. 498)?

Misbranded Nostrums—The following nostrums were declared misbranded under the Federal Food and Drugs Act because of the false, fraudulent or misleading claims made for them: Hall's "Texas Wonder"; King's Live and Kidney Alterative and Blood Cleanser; En-Ar-Co Oil; Lindsey's Improved Blood Searcher; White Eagle's Indian Oil Ointment; Ayua Nova Vita; Brown's New Consumption Remedy; Akoz Ointment; Akoz Rectal Suppositories; Akoz Powder; Akoz Dusting Powder; Akoz Plaster; Akoz Compound; Fenner's Kidney and

Backache Remedy, and Wine of Chenstohow (Jour. A. M. A., Feb. 22, 1919, p. 591).

Styptics—Ordinary bleeding has a strong tendency to stop spontaneously with the formation of a clot, so that the benefit attributed to a drug that has been used as a hemostatic cannot easily be evaluated. Evidence of the current confusion of cause and effect in relation to local hemostatics has been furnished by P. J. Hanzlik. In general he finds that the local application of vasoconstrictor and astringent diminishes or arrests local hemorrhage, while vasodilator and irritating agents (without astringent action) increase local bleeding. The value of the newer thromboplastic agents of the kephalin or tissue extract type is considered as still uncertain. Epinephrin remains as the most efficient and desirable hemostatic agent. Tyramin and pituitary extracts were found efficient, and, unlike epinephrin, they do not increase bleeding later. Astringents were found variably effective, ferric chlorid and tannin standing highest, while alum was disappointing. The vaunted cotarnin salts (stypticin and typtol) antipyrin and emetin were found to increase bleeding on local application (Jour. A. M. A., Feb. 22, 1919, p. 577).

Wildroot Dandruff and Eczema Cure—Dr. Harvey W. Wiley, in his book "1001 Tests," thus characterizes this preparation: "Contains arsenic, and some phenolic body, probably resorcin; perfumed and colored. The trace of alkaloidal material present was too small for identification. Contains 40 per cent of alcohol as declared, and less than one-half of 1 per cent of nonvolatile matter. Claims that it is an herb compound and a positive remedy for eczema and dandruff obviously untenable." (Jour. A. M. A., Feb. 22, 1919, p. 594).

Benzyl Alcohol—While experience alone will tell whether or not the local anesthetic benzyl alcohol or phenmethyrol will come up to the expectations of the discoverer of its action, it was deemed of sufficient promise by the Council on Pharmacy and Chemistry to warrant its admission to New and Non-official Remedies (Jour. A. M. A., Feb. 22, 1919, p. 594).

# Guardians of Health

## Antipneumococcic Serum Polyvalent

The superiority of Antipneumococcic Serum Polyvalent in Pneumonia treatment is clearly brought out by Medalia and Shiff, of the U. S. Army Medical Corps, in the Journal of the A. M. A., November 30, 1918.

Of thirty cases treated with Antipneumococcic Serum Polyvalent, without regard to the kind of infecting organism, not a single case proved fatal or developed empyema or otitis media.

On the other hand, in a series of twenty cases, where type determinations were made and Type I Serum was administered in the three cases showing Type I organisms, there were two deaths, four cases of empyema and three cases of otitis media.

In summarizing their conclusions the authors state: "These facts \*\*\* suggest the advisability of using the Polyvalent Serum as a routine measure until such time, at least, as monovalent serums can be produced against the respective individual types of infection."

**Pneumo-Serobacterin** (Types I, II, III) is indicated in the prevention and treatment of pneumonia.

It is supplied in packages of four syringes, single syringes and in 5-mil vials

The use of bacterins in the prevention and treatment of pneumonia is recommended by Rosenow. See Journal A. M. A., March 16, 1918, p. 759. Fleming, Practitioner, April, 1917, p. 332. S. Solis-Cohen, Medical Record, April 27, 1918, p. 743. Lister Publication No. 10, South African Institute for Medical Research, 1917.

## Pertussis Serobacterin and Bacterin

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\*Bloom, New Orleans Medical and Surg. Journal, Vol. 70, No. 3, Sept. 1917, page 282.

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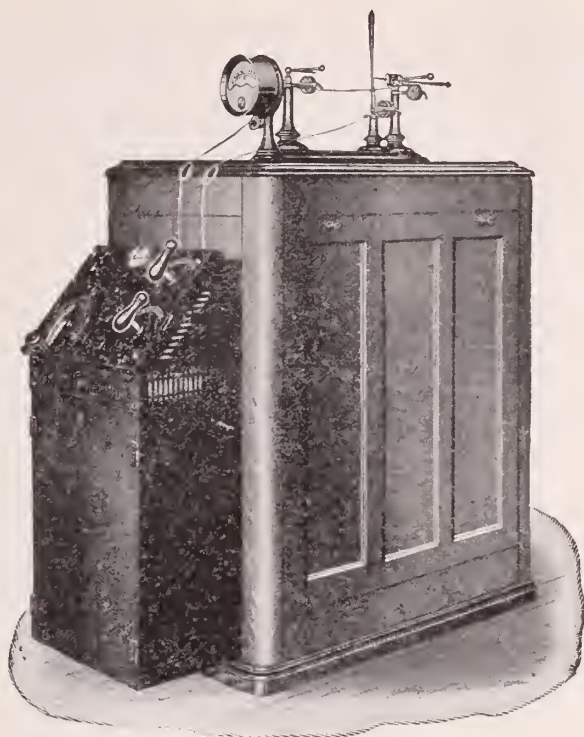


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5119  
Directory Number.

# THE JOURNAL

OF THE

Medical Association of Georgia



PUBLISHED MONTHLY UNDER DIRECTION OF THE COUNCIL

Editorial and Business Office, Atlanta, Ga.

Subscription Price, \$2.00

Entered at the Post Office at Atlanta, Ga., under the Act of March 3, 1879.

VOL. VIII

ATLANTA, GA., APRIL, 1919

No. 12

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## THE WRITTEN WORD.

Contributed to the A. S. M. Annual,  
by a Medical Author.

In accepting a courteous request for a contribution from the editorial staff of this Annual, I am afforded the opportunity of stressing a point so often emphasized by me—the need of more written records of the views and achievements of our Southern medical workers. Any thoughtful observer, who will take the trouble to search the archives of medical literature cannot fail to be surprised at the paucity of southern names among the various contributors. It cannot be from either lack of brains or actual attainments, for in both the southern physicians have proved themselves the peers of any, regardless of section, nationality or clime.

The mournful fact remains, however, that in but few instances have these achievements been recorded in black and white, while the vast majority of master spirits who accomplished these wonderful deeds, seemed satisfied with the serene consciousness of duty well done, by neglecting to place on paper the results of their successful endeavors. That this almost fatuous indifference has worked grave

injustice to Southern medical history, no one will deny.

Let me cite you two instances, one in modern and one in ancient history, either of which will amply prove my contention.

When, on March 30th, 1842, in the little town of Jefferson, Georgia, Dr. Crawford W. Long, by the use of ether, removed without pain a wen from a man's neck, he simply accepted it as a meritorious act on his part, and modestly made neither "fuss nor feathers" over the discovery of anesthesia. Four and a half years later, in the Massachusetts General Hospital, Dr. W. F. Morton administered ether, while Dr. Warren amputated a leg. What did Dr. Morton do? He immediately "hot-footed" to the nearest place where he could make a written report, and almost before the fumes of the ether had evaporated from the operating room, Dr. Morton was announcing his discovery to the four quarters of the civilized globe; and for this no one can blame him.

The result of Dr. Long's misplaced modesty as against the live, enterprising spirit of Dr. Morton was a dislocation of history, which has only within the last few years been corrected.

In the first century of the Christian era, there lived and labored together two eminent characters—one who was too busy doing



good to write, the other, who carefully recorded all important events as they transpired. Thesemen were Appollus and Paul. The former was the doer alone: the latter, both the doer and writer. The consequence has been that Paul is known to every man, woman and child in Christendom, while Apollus, who is believed by many to have been the greater of the two, is known only by what Paul wrote concerning him.

Among the students now enrolled in the Atlanta School of Medicine are some who will no doubt meet with unique experiences, will observe rare phenomena, or with idealistic mentalities will see visions and dream dreams not permitted to materialistic individualities. To these, or to any earnest toilers in our chosen field, this message is given.

Let not, therefore, these future discoveries and achievements of our Southland depend for perpetuation on mere oral transmission, but with "the written word" let us speed them on lasting journey adown the corridors of time.

### BRIEF ANALYSIS OF SIX BRAIN CASES

By Hansell Crenshaw, M. D.

Neurologist to Grady Hospital, Atlanta, Ga  
Late Neuro-psychiatrist to U. S. Base  
Hospital 43 in France.

The principal upon which rests ability to locate brain lesions is the fact that every muscular action bears fixed relation to a definite center in the brain, and that each of the special senses registers in a definite part of the cerebrum. Thus a given paralysis, not of the flaccid, peripheral-nerve type, points to corresponding centers in the brain or to the nerve fibers immediately leading from these centers. Or, again, anesthesia of a given sense organ or area when demonstrably not due to peripheral damage, points to disease of that part of the brain responsible for the perception of sensation coming from the particular organ or area involved.

The following analysis of case-histories of brain disease are intended to illustrate the laws governing localization of destroyed or injured portion of the brain:

Case 1. Mr. T., hotel keeper, aged fifty, when examined presented abnormalities as follows: (1) difficulty of speech, (2) tendency

to drag the right foot, (3) occasional convulsive movements of the right hand, and (4) inability when blind-folded to distinguish objects by their feel in his right hand. The speech difficulty was interesting. The patient talked much but often used the wrong word, or was unable to remember the word desired. Particularly was he unable to comprehend written words, failing to read aloud successfully so simple a legend as the title of the Saturday Evening Post. The pulse was slow and full, though the blood pressure was not excessive. There was no special evidence of hardening of the vessels. The optic nerve ends while not showing the tortuous veins indicative of intra-cranial pressure, were somewhat pale and gave evidence of pressure in the past. Mr. T's illness was of gradual onset, having developed slowly during several months. The Wassermann of the blood and spinal fluid was negative and the urine was normal. The knee-jerks were exaggerated, particularly the right, but there was no ankle clonus or Bashinski reaction.

Analysis: We know that the patient in this case suffered from a brain lesion because of his difficulty of speech; and additional support is lent to this opinion by the increased knee-jerks indicating upper neuron involvement, and by the patient's inability to recognize the nature of objects merely through the tactile sense of the hand. Moreover, the twitching of the muscles of the right hand suggested an irritative lesion of the motor hand-center, on the left side of the brain and the dragging foot indicated a corresponding left motor center destruction. Thus it was evident that the motor areas for the left hand and right foot were involved in the lesion, and we know that these areas lie along the frontal convolution which bounds the fissure of Rolando in front, on the side opposite that of the paralysis. It was further evident that the portion of the brain called the angular gyrus, situated between the parietal and temporal lobes near the posterior extremity of the fissure of Sylvius, was doubly involved; because the perception of written words occurs in this gyrus and because the stereognosis—the power to recognize objects by their feel—is also a function of this particular fold of the grey matter. Agraphia, then, or word-blindness, and astereognosis, or inability to know objects through the tactile sense, both being well-marked in this case, the angular gyrus was decided upon as a probable posterior bound-

ary of involvement, while the motor area of the frontal lobe was taken as the probable anterior limit.

Operation was advised, a surgeon called in, and a window was made in the left side of the skull. The opening in the skull was quite accurate in relation to the lesion exposed, which consisted of a yellow, caseous mass, corresponding very nearly to the opening in the cranium. This mass bulged into the window and fluctuated under pressure. Puncture resulted in the release of fluid which spurted several inches in the air, and suggested that the mass was a cyst. Removal of a portion of the caseous tissue together with the fluid, and closure of the skull has resulted in considerable improvement in speech during the months that have elapsed since the operation, and entire relief from the twitching movements of the hand and tendency to drag the right foot. Only slight improvement, however, can be noted in the astereognosis.

Case 2. Mr. McD., clerk, aged twenty-one, when seen with Dr. William M. Dunn, of Atlanta, exhibited mild paralysis of the left lower extremity and left upper extremity and of the right side of the face. The paralysis had come on suddenly a few hours before while the patient was attending a matinee. Upon leaving the theatre his difficulty of gait caused the patient to appear drunk, but he reached a drug store and was sent home in an ambulance. The patient gave a history of syphilis several years before and of treatment including mercury and neosalvarsan. The lower extremity cleared up within a fortnight of rest and potassium iodide administration, but a residue of paralysis persists in the right upper extremity after several weeks daily application of faradic electricity. There was no true aphasia. The patient had had rheumatism.

Analysis: The lesion in this case involved the internal capsule of the brain, because this is the only part of the brain where a lesion sufficiently circumscribed not to cause various symptoms other than those present in the case could produce a complete paralysis of the voluntary muscles of one half of the body. All the fibres passing downward from the motor area of the cerebrum converge into the pyramidal tract in the internal capsule and at this point a comparatively small lesion may intercept all the voluntary impulses destined to supply the opposite side of the body. In Mr. McD's case

the lesion was low down in the capsule, near the lower margin of the pons, because at this point the fibers passing to the facial nerve have already crossed to the opposite side whereas the main pyramidal tract to the extremities has not yet crossed over. A lesion higher up the course of the tract in the capsule would catch the facial nerve fibers before they had crossed over and would result in paralysis of the side of the face corresponding to the affected side of the body. The nature of the lesion was probably embolic through the possibility of a small hemorrhage must be considered.

Case 3. A. R., a negro boy of twenty, was seen at the clinic of the Atlanta Medical College. This patient's one and only symptom was completely hemianesthesia. One entire half of his body had gradually become numb and "dead" to sensation. From the history the lesion appeared to be luetic, and the patient was put upon antisyphilitic treatment. Little if any improvement, however, had resulted up to the time he was last seen by the writer. The reflexes were normal, and the emotions stable.

Analysis: The internal capsule embraces practically all the sensory fibers from the opposite side of the body on their way cortexwards. It is conceivable that a lesion of the posterior portion of the capsule could intercept all the sensory impressions from one side of the body. The absence, however, of any motor involvement, as in the case, points more strongly to the optic thalamus as the lesion, because the thalamus is the end-station of all the sensory neurons from the opposite side. From the thalamus fibers radiate into the cortex. Of course hemianesthesia should always make one think of hysteria, but in the absence of increased tendon reflexes or of emotional instability, may reasonably be ruled out.

Case 4. Little Miss S., a child of five, when first examined presented a marked internal strabismus of the left eye, and some paralysis of the same side of the face. The ocular paraly had preceded the facial paralysis several days. The paralysis developed rather rapidly during about two weeks. A few days after the first examination deafness was noted in the left ear, and, a day or so later still, considerable difficulty in swallowing was experienced. Following closely upon this the heart action became rapid and irregular, and the general condition of the patient continued to grow progressively worse so rapidly that a



decompression operation was done, the child dying shortly after leaving the table. More or less fever accompanied the course of this case, and a lumbar puncture made early revealed the presence of considerable pressure intra spinously. Examination of the fluid, however, failed to show evidence of tuberculosis.

**Analysis:** This was a case of pregressive bulbar palsy. First the disease attacked the nucleus of the sixth cranial nerve which energizes the external rectus muscle of the eye. Spreading gradually backward the lesion, which probably was inflammatory in character, involved the nuclei of the facial, the auditory, the glosso-pharyngeal, and finally the pneumogastric nerve. Some authors describe such cases under the classification of inferior polio-encephalitis. The decompression operation revealed considerable pressure intracranially; but as an autopsy could not be secured, the question of whether a tumor existed or not could not be determined.

**Case 5.** Master W., aged fourteen, when seen was in a thoroughly flaccid state of relaxation, unable to speak except explosively and profanely at long intervals. The patient seemed in a stupor, showed inequality in the pupils, the right being larger and less responsive to light. The condition followed rapidly a few hours after the boy had fallen down a flight of stairs, sustaining a blow over the right eye. The patient cleared up within ten days under rest and iodides, and has remained well since. There was some choked disc of the right retina. The boy was left-handed.

**Analysis:** The mental disturbance, the speech difficulty, and the general relaxation all point to a lesion of the right frontal lobe. The speech center in left-handed persons is on the right side. The swollen veins of the right retina—the so-called choked disc—indicated that considerable pressure existed within the cranium, probably due to hemorrhage.

**Case 6.** Master P., aged eight, was normal in every way until he received a blow on the head at the age of four. Henceforth he became restless, less vigorous and a kleptomaniac. He stole as much as seven dollars at a time from his parents at the age of five and used to carry crowds of newsboys into the picture shows. The periods of kleptomania came upon him at intervals of several months, like fits of epilepsy. Between times he would

not take money purposely left in his way to test him. Upon examination, there was nothing to note except a depression well up and forward over the frontal lobes of the brain, a lack of development for a lad of eight, and a two-plus Wassermann. To the Wassermann in this case I do not attach importance because clinical symptoms to sustain the reaction were lacking. The mental examination of Master P proved conclusively that he was not constitutionally unmoral, for he had keen moral sense, being able beyond his years to discriminate between right and wrong. Also when questioned about his thefts he became much agitated and genuinely penitent.

No analysis of this case is called for. It may be remarked, however, that there is probably an irritative lesion over the higher centers of the frontal lobe which generates periodic explosions of psychic energy, taking the form of morbid impulses very much like such lesions produce the seizures in traumatic epilepsy—constituting an "epileptic equivalent."

**Case 7.** Miss Mc., age eighteen, first complained of clumsiness at the piano. Several weeks later she began to stagger slightly in her walk. Examination three months after the gradual onset of the trouble showed (1) a marked stagger upon attempting to walk; with a tendency to fall towards the right, (2) increased knee-jerks, (3) normal strength in both upper and lower extremities, and (4) positive Wassermann of the blood. There was no choked disc, but the appearance of the optic nerve heads was not normal and gave evidence of the neuritis in the past. Vomiting occurred now and then.

**Analysis:** A diagnosis of the cerebellar disease was based upon the incoordination (of upper and lower extremities) without loss of power of reflexes. Labyrinthian disease might have been thought responsible for the unsteadiness of the gait, but not for incoordination of the finer, individual movements. The tendency to fall toward the right is said to indicate a right-sided lesion. The lesion in this case was probably a tumor; though in the absence of marked signs of intra-cranial pressure, there is doubt on this point. The lesion was doubtlessluetie. Had the knee-jerks in this case been absent instead of increased, the differential diagnosis between cerebellar disease and Friedreich's ataxia would have been difficult.

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 W. A. Aderhold ----- Bremen  
 H. L. Barker ----- Carrollton  
 T. M. Spruell ----- Temple  
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**CHATHAM COUNTY.**

President—Walter A. Norton Savannah  
 V.-Pres.—W. H. Myers -----  
 Sec.—E. L. Bishop -----  
 Del.—Lawrence Lee -----  
 W. R. Adams ----- Savannah  
 A. L. R. Avant -----  
 J. O. Baker -----  
 Craig Barrow -----  
 V. H. Bassett -----  
 E. L. Bishop -----  
 W. A. Cole -----  
 D. E. Dudley -----  
 H. T. Exley -----  
 E. W. Griffin ----- Springfield  
 J. L. Hiers ----- Savannah  
 G. H. Johnson -----  
 Jake Z. Jones -----  
 Lawrence Lee -----  
 H. H. Martin -----  
 C. H. Meldrim -----  
 W. M. Myers -----  
 I. W. McDowell -----  
 W. A. Norton -----  
 G. T. Olmstead -----  
 W. B. Orrear -----  
 E. S. Osborne -----  
 L. S. Phillips -----  
 W. W. Smith ----- Clio  
 J. O. Strickland ----- Pembroke  
 H. R. Tarver ----- Guyton  
 M. R. Thomas ----- Savannah  
 J. A. Usher -----  
 G. W. White -----  
 L. W. Williams -----  
 W. S. Wilson -----  
 J. L. Jackson -----  
 M. X. Corbin -----  
 L. B. Taylor -----  
 R. Lattimore -----  
 J. L. Farmer -----  
 T. P. Waring -----  
 R. V. Martin -----  
 E. Iseman -----  
 J. N. Carter -----  
 Lee Howard -----  
 T. W. Causey -----  
 W. H. Elliott -----  
 R. M. Thompson -----

**CLARK COUNTY.**

President -----  
 V.-Pres. -----  
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 Del. -----  
 W. R. King ----- Crawford  
 J. C. McKinney ----- Athens  
 W. H. Cabanni -----  
 H. M. Fullilver -----  
 J. B. Proctor -----  
 M. F. Mathews -----  
 G. T. Canning -----  
 J. A. Hunnicutt -----  
 C. N. Sisk -----  
 James C. Bloomfield -----  
 J. C. Holiday -----  
 R. M. Goss -----  
 L. H. Crow -----

S. S. Smith -----  
 H. H. Goss -----  
 D. H. Dupree -----

**COBB COUNTY**

President—J. D. Malone ----- Marietta  
 V.-Pres.—W. E. Benson -----  
 Secretary -----  
 Del.—C. T. Nolan ----- Marietta  
 J. D. Malone ----- Marietta  
 T. T. Nolan -----  
 E. M. Bailey ----- Acworth  
 W. C. Humphries -----  
 J. E. Lester ----- Kennesaw  
 T. M. Ezzard ----- Roswell  
 W. R. Kemp ----- Marietta  
 W. E. Benson -----  
 F. P. Lindley ----- Powder Springs

**COFFEE COUNTY.**

President—G. L. Touchton ----- Douglas  
 V.-Pres. -----  
 Sec.—Jas. A. Fort ----- Douglas  
 Del. -----  
 S. L. Vinson ----- Nicholls  
 H. C. Welch ----- Douglas  
 Ivy W. Moorman -----  
 Joe Corbitt ----- Pearson  
 H. P. Smith -----  
 J. S. Morris ----- Douglas  
 J. A. Fort -----  
 G. L. Fouchton -----  
 T. L. Clark -----  
 W. A. Sibbitt -----  
 W. F. Sibbitt -----

**COLQUITT COUNTY.**

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 V.-Pres.—J. H. Hall ----- Norman Park  
 Sec.—Everett Daniel ----- Moultrie  
 Del.—J. A. Summerlin ----- Harbtsfield  
 J. H. Hall ----- Norman Park  
 W. H. Whittendale -----  
 J. A. Summerlin ----- Harbtsfield  
 Everett Daniel ----- Moultrie  
 W. W. Massey -----  
 C. B. Harrell -----  
 W. L. Bennett -----  
 S. M. Withers -----  
 C. M. Hitchcock -----  
 C. C. Brannen -----  
 J. E. Lanier -----  
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 V.-Pres. -----  
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 Del.—E. L. Merrell ----- Turin  
 W. A. Farmer ----- Newnan  
 E. L. Merrell ----- Turin  
 W. H. Tanner ----- R. R. No. 3, Newnan  
 A. R. Hogg ----- Haralson  
 A. A. Barge ----- Newnan  
 T. S. Bailey -----  
 D. A. Harvey -----  
 W. L. Woodruff -----  
 J. L. Barge -----  
 T. B. Davis -----  
 F. H. Leston ----- Grantville  
 W. A. Post -----  
 Paul Peniston ----- Newnan  
 C. C. Elliotts ----- Sargent

**CRISP COUNTY.**

President -----  
 V.-Pres. -----  
 Sec. -----  
 Del. -----  
 A. R. Haywood ----- Warwick



H. C. Flournoy ----- " "  
 T. J. McArthur ----- Cordele  
 P. L. Williams ----- " "  
 T. E. Bradley ----- " "  
 S. H. Hunt ----- " "  
 J. A. Ward ----- " "  
 J. S. McKenzie ----- " "  
 W. E. Edwards ----- " "  
 T. E. Williams ----- " "  
 S. F. Williams ----- " "  
 M. R. Smith ----- " "  
 V. O. Harvard ----- Arabi  
 Tip Cox ----- " "

**DODGE COUNTY.**

President-----  
 V.-Pres.-----  
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 Del.-----  
 W. A. Coleman ----- Eastman  
 J. Cox Wall ----- "  
 O. F. Collins ----- Chauncy  
 A. L. Milkins ----- Eastman  
 F. Herman ----- "  
 J. D. Herrman ----- "  
 J. A. Burch ----- "  
 J. F. Powell ----- R. F. D., Gresston  
 W. P. Coffee ----- Rhine

**DECATUR COUNTY.**

President----- Bainbridge  
 V.-Pres.-----  
 Sec.-Treas.—A. E. B. Alford ----- Decatur  
 Del.-----  
 A. S. V. Christophine ----- Attapulgus  
 R. L. Z. Bridges ----- Brinson  
 Cleveland Bridges ----- Reynoldsville  
 N. L. Spengler ----- Donaldsonville  
 Logan Berry ----- Faceville  
 John A. Toole ----- Bainbridge  
 Geo. T. Clark ----- "  
 S. J. Chestnut ----- "  
 A. E. B. Alford ----- "  
 Gordon Chason ----- "  
 R. F. Wheat ----- "  
 Tom Chason ----- Donaldsonville  
 J. I. Spooner ----- "  
 P. M. Lewis ----- Bainbridge

**DOOLY COUNTY.**

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 V.-Pres.—M. W. Dykes ----- Byromville  
 Sec.—F. E. Williams ----- Vienna  
 Del.-----  
 H. A. Mobley ----- Vienna  
 V. C. Daves ----- "  
 J. R. Rose ----- Unadilla  
 R. H. Pate ----- "  
 L. H. Bishop ----- "  
 V. L. Harris ----- Pinehurst  
 J. L. Lee ----- "  
 E. B. Davis ----- Bromville  
 O. W. Kitchens ----- "  
 J. O. Teasely ----- Lilly  
 T. F. Bivins ----- Vienna  
 M. W. Dykes ----- Byromville  
 F. E. Williams ----- Vienna  
 W. I. Butler ----- Unadilla

**DOUGHERTY COUNTY.**

President—N. E. Benson ----- Albany  
 V.-Pres.—J. A. Redfern ----- "  
 Sec.—R. J. Pearson ----- "  
 Del.—A. W. Wood ----- "  
 N. E. Benson ----- Albany  
 A. W. Wood ----- "  
 J. A. Redfern ----- "  
 W. L. Davis ----- "  
 C. E. Newell ----- "

A. H. Hillsman ----- "  
 L. E. Welch ----- "  
 J. C. Keaton ----- "  
 W. S. Cook ----- "  
 R. J. Pearson ----- "

**ELBERT COUNTY.**

President-----  
 V.-Pres.-----  
 Sec.-----  
 Del.-----  
 W. A. Johnson ----- Bowman  
 W. J. Mathews ----- Elberton  
 A. C. Smith ----- "

**EMANUEL COUNTY.**

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 Sec.—D. C. LaGrone ----- Summertown  
 Del.—J. D. Bailey ----- "  
 J. H. Chandler ----- Swainsboro  
 L. P. Youmans ----- "  
 G. L. Smith ----- "  
 D. D. Smith ----- "  
 T. E. Blackburn ----- "  
 R. C. Franklin ----- "  
 E. T. Coleman ----- Graymont  
 V. E. Franklin ----- "  
 D. C. LaGrone ----- Summertown  
 J. D. Bailey ----- "  
 J. B. Carter ----- Blundale  
 L. J. Lanier ----- Wesley  
 D. F. Johnson ----- Garfield  
 R. L. Samples ----- Summitt  
 R. L. English ----- Stillmore

**FLOYD COUNTY.**

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 V.-Pres.—A. C. Shamblin ----- "  
 Sec.—M. M. McCord ----- "  
 Del.—J. C. Watts ----- "  
 John L. Chandler ----- Rome  
 Ross P. Cox ----- "  
 Wm. De Lay ----- "  
 Wm. B. Floyd ----- "  
 John L. Garrard ----- "  
 Levi P. Hammond ----- "  
 Robert M. Harbin ----- "  
 Wm. P. Harbin ----- "  
 John Turner McCall ----- "  
 Mather Marvin McCord ----- "  
 Augustus F. Routledge ----- "  
 Arthur C. Shamblin ----- "  
 Wm. J. Shaw ----- "  
 Robert O. Simmons ----- Camp Hancock  
 Geo. B. Smith ----- Rome  
 James C. Watts ----- "  
 Robert H. Wicker ----- "  
 J. P. Ballenger ----- R. F. D., Armchee  
 H. A. Turner ----- Rome  
 S. R. Methwin ----- Lindale  
 Clifford Moore ----- "  
 John H. Griffin ----- Amurchee  
 J. N. Cheney ----- Silver Creek  
 Bolling S. Brenham ----- Rome

**FORSYTH COUNTY.**

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 V.-Pres.—J. A. Otwell ----- Cumming  
 Sec.—J. H. Hockinhull ----- "  
 Del.—W. E. Lipscomb ----- "  
 Geo. P. Brice ----- Flowery Branch  
 J. H. Hockinhull ----- Cumming  
 W. W. Pirkle ----- "  
 W. E. Lipscomb ----- "  
 J. A. Otwell ----- "  
 N. H. Bramblett ----- "

**FRANKLIN COUNTY.**

President—Stewart D. Brown ----- Royston

V.-Pres.—W. B. Heller -----Lavonia  
 Sec.—B. T. Smith -----Carnesville  
 Del.—E. T. Poole -----  
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 H. W. Birdsong -----  
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 Stewart D. Brown -----  
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 Geo. T. Ridgeway -----  
 J. R. Brown -----R. F. D., Martin  
 E. T. Poole -----  
 G. M. Parker -----  
 B. T. Smith -----  
 W. B. Heller -----Lavonia  
 J. M. Freeman -----

### FULTON COUNTY.

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 V.-Pres.—W. A. Selman -----Atlanta  
 Sec.—E. P. Merritt -----Atlanta  
 Del.—  
 A. F. Caldwell -----Atlanta  
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 W. C. Warren -----  
 W. B. Sharp -----  
 L. C. Fisher -----  
 W. L. Ballinger -----  
 S. T. Barnett -----  
 W. E. Campbell -----  
 L. S. Hardin -----  
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 R. R. Daly -----  
 W. K. Jenkins -----  
 H. C. Miller -----  
 C. H. Paine -----  
 Arch. Avary -----  
 J. C. Avary -----  
 H. M. Lokey -----  
 C. W. Roberts -----  
 F. P. Calhoun -----  
 E. C. Cartledge -----  
 C. E. Hall -----  
 G. A. Rhodes -----  
 Virgil Cooke -----  
 J. M. Fuller -----  
 Jno. D. Blackman -----  
 J. A. Alley -----  
 W. F. Wells -----  
 B. C. Duncan -----  
 A. H. Van Dyke -----  
 St. Jos. B. Graham -----  
 W. T. Brown -----  
 S. A. Visanki -----  
 S. C. Redd -----  
 J. G. Smith -----  
 W. C. Lyle -----  
 E. P. Merritt -----  
 E. D. Crawford -----  
 J. H. Crawford -----  
 A. G. Fort -----  
 C. A. Wilkins -----  
 Geo. M. Niles -----  
 J. C. White -----  
 Jno. H. Powell -----  
 Jas. B. Baird -----  
 B. T. Beasley -----  
 W. E. Ragan -----  
 O. H. Mathews -----  
 C. P. Ward -----  
 S. R. Roberts -----  
 Geo. M. Murray -----  
 W. F. Westmoreland -----  
 J. C. Welaver -----  
 Jno. S. Hurt -----  
 K. L. Reid -----

W. A. Crowe -----  
 E. G. Jones -----  
 J. S. Leibman -----  
 Marion Bension -----  
 Geo. H. Noble -----  
 J. E. Sommerfield -----  
 W. M. Dunn -----  
 D. Y. Sage -----  
 M. G. Campbell -----  
 G. W. Quillian -----  
 L. M. Gaines -----  
 F. M. Sutton -----  
 A. L. Fowler -----  
 Dunbar Roy -----  
 C. E. Boynton -----  
 F. L. Cooley -----  
 W. L. Funkhouser -----  
 I. T. Catron -----  
 T. H. Hancock -----  
 J. F. Freeman -----  
 H. W. Minor -----  
 C. C. Aven -----  
 John Vermilie -----  
 F. W. McRae -----  
 W. L. Gilbert -----  
 R. A. Bartholmew -----  
 Paul T. Jones -----  
 M. T. Davis -----  
 M. Hoke -----  
 K. R. Collins -----8803 Euclid Ave., Cleveland, Ohio  
 A. W. Stirling -----Atlanta  
 A. P. Flowers -----  
 W. M. Powell -----  
 E. F. Fincher -----  
 Samuel Stampa -----  
 M. B. Allen -----  
 R. T. Dorsey -----  
 B. S. Bomor -----  
 C. E. Murphy -----  
 J. C. Johnson -----  
 J. G. Wood -----  
 R. R. Holt -----  
 B. H. Wagnon -----  
 E. B. Thomas -----  
 J. P. Kennedy -----  
 G. C. Trimble -----  
 F. E. Vanderveer -----  
 W. P. Nicholson -----  
 W. F. Shallenberger -----  
 T. D. Longino -----  
 O. D. Hall -----  
 W. W. Blackman -----  
 E. C. Davis -----  
 A. L. Sawyer -----  
 A. M. Dimmock -----  
 W. E. Barber -----  
 F. C. Bivings -----  
 W. C. Goodpasture -----  
 Geo. N. Noble, Jr. -----  
 J. D. Thomson -----  
 M. B. Hutchins -----  
 L. B. Clark -----  
 W. B. Duvall -----  
 W. S. Aiken -----  
 W. C. Robinson -----  
 O. L. Miller -----  
 D. R. Longino -----  
 C. J. Vaughn -----  
 J. T. Floyd -----  
 Jno. Funke -----  
 Cosby Swanson -----  
 J. A. Gentry -----  
 W. S. Elkins -----  
 J. L. Campbell -----  
 W. C. Blanford -----

L. P. Stephens	“
C. E. Rushin	“
G. F. Spearman	“
W. T. Bivings	“
Grace Kirkland	“
J. J. Martin	“
Theo Toepel	“
J. D. Manget	“
J. N. Brawner	“
E. C. Thrash	“
C. M. Curtis	College Park
J. R. Smith	Atlanta
C. E. Lawrence	“
W. B. Emery	“
C. W. Strickler	“
G. P. Hughley	“
G. W. Fuller	“
A. Smith	“
W. F. Wells	“
O. B. Bush	“
Z. F. Cowan	“
Allen H. Bunce	“
H. M. S. Adams	“

**GWINNETT COUNTY.**

President—W. T. Hinton	Dacula
V.-Pres.—	“
Sec.—G. S. Kelley	Lawrenceville
Del.—W. T. Hinton	“
W. P. Ezzard	Lawrenceville
G. S. Kelley	“
W. T. Hinton	Dacula
B. V. Wilson	“
D. C. Kelley	Lawrenceville
C. Hinton	“
C. H. Dickens	Grayson

**GLYNN COUNTY.**

President—R. E. L. Burford	Brunswick
V.-Pres.—R. L. Fox	“
Sec.—C. B. Greer	“
Del.—G. W. Blanton	“
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H. M. Branham	“
J. P. Harrell	“
R. L. Fox	“
J. W. Simmons	“
C. B. Greer	“
K. L. Darby	“
G. V. Cates	“
G. W. Blanton	“
I. N. Bishop	“
R. W. Todd	“
W. M. Odum	“

**GORDON COUNTY.**

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V.-Pres.—A. L. Horton	“
Sec.—C. F. McLain	“
Del.—C. F. McLain	“
W. R. Barnett	Dalton
W. G. Banister	Plainville
E. O. Shellhouse	Calhoun
O. M. Haywood	Reeve
C. F. McLain	Calhoun
G. W. Willis	“
Tramel Starr	“
B. W. Fite	R. F. D. Resaca
R. M. Gray	Sugar Valley
J. M. Erwin	Calhoun
A. L. Horton	Ranger
W. R. Richards	Calhoun

**GRADY COUNTY.**

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V.-Pres.—T. J. Arline	“
Sec.—J. E. Wright	“
Del.—C. H. Maxwell	Calvary

J. B. Warnell	Cairo
W. A. Walker	“
J. A. Lindsay	“
T. J. Arline	“
R. R. Lindsay	“
J. E. Wright	“
J. E. Harden	Whigham
A. B. Regmonds	Reno
A. H. Maxwell	Calvary
L. E. Brawner	Whigham

**HABERSHAM COUNTY.**

President—	“
V.-Pres.—	“
Sec.—W. V. Chandler.	“
Del.—	“
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P. Y. Duckett	Cornelia
W. B. Parks	“
E. H. Lamb	Demorest
J. K. Burns	Clarksville
J. K. Burns, Jr.	“
J. B. Jackson	“
R. B. Lamb	Demorest
E. W. Glidden	Alto

**HALL COUNTY.**

President—J. R. Simpson	Gainesville
V.-Pres.—L. R. Brinson	“
Sec.—Pratt Cheek	“
Del.—	“
A. D. White	Gainesville
C. D. Wheelchel	“
H. L. Rudolph	“
J. B. Rudolph	“
E. T. Gibbs	“
E. B. Robertson	“
J. R. Simpson	“
E. P. Ham	“
J. H. Downey	“
W. T. Meeks	“
Pratt Cheek	“
J. C. Orr	Flowery Branch
J. A. Kitchens	Murrayville
W. W. Liles	Flowery Branch
J. L. Bryson	Gainesville

**HART COUNTY.**

President—	“
V.-Pres.—	“
Sec.—Geo. S. Clark	Hartwell
Del.—	“
W. I. Hailey	Hartwell
W. E. McCurry	“
B. C. Teasley	“
E. B. Poole	“
Geo. S. Clark	“

**HENRY COUNTY**

President—H. C. Ellis	McDonough
V.-Pres.—J. G. Smith	“
Sec.—R. L. Tye	“
Del.—W. P. Sloan	“
H. C. Ellis	McDonough
J. G. Smith	“
W. P. Sloan	“
R. L. Tye	“
J. R. Wallis	“

**HANCOCK COUNTY.**

President—	“
V.-Pres.—	“
Sec.—	“
Del.—	“
C. S. Jernigan	Sparta

**IRWIN COUNTY.**

President—	“
V.-Pres.—	“
Sec.—	“
Del.—	“



S. L. McElroy ----- Ocilla  
W. J. Dismuke ----- "  
G. W. Willis ----- "

**JACKSON COUNTY.**

President—C. O. Brock ----- Jefferson  
V.-Pres.—J. H. Campbell ----- "  
Sec.—J. C. Bennett ----- "  
Del.—J. C. Bennett ----- "  
L. C. Allen ----- Hoschton  
J. C. Bennett ----- Jefferson  
C. O. Brock ----- "  
J. H. Campbell ----- "  
Ralph Freeman ----- Hoschton  
L. G. Hardman ----- Commerce  
F. M. Hubbard ----- "  
W. C. Kennedy ----- Talmo  
E. M. McDonald ----- Jefferson  
M. F. Nelms ----- Commerce  
J. B. Pendergrass ----- Jefferson  
O. E. Shankle ----- Commerce  
L. J. Sharp ----- "  
S. J. Smith ----- Jefferson  
J. C. Verner ----- Commerce

**JASPER COUNTY.**

President—  
V.-Pres.—  
Sec.—J. V. Davis ----- Monticello  
Del.—  
C. L. Ridley ----- Hillsboro  
J. F. Anderson ----- "  
R. F. Cary ----- Monticello  
J. W. Payne ----- "  
F. S. Belcher ----- "  
L. Y. Pitard ----- "  
J. V. Davis ----- "

**JENKINS COUNTY.**

President—J. L. Kirkendoll ----- Millen  
V.-Pres.—Q. A. Mulkey ----- "  
Sec.—C. Thompson ----- "  
C. Thompson ----- Millen  
Q. A. Mulkey ----- "  
J. L. Kirkendoll ----- "  
R. Y. Lane ----- "  
W. E. Rushin ----- Perkins  
M. E. Perkins ----- Army  
J. A. Johnston ----- Millen

**JOHNSON COUNTY.**

President—D. C. Harrison ----- Kite  
V.-Pres.—J. G. Brantley ----- Wrightsville  
Sec.—R. E. Brinson ----- "  
Del.—D. C. Harrison ----- Kite  
D. C. Harrison ----- Kite  
J. A. Meeks ----- "  
J. G. Brantley ----- Wrightsville  
S. M. Johnson ----- "  
T. L. Harris ----- "  
T. S. Page ----- "  
R. E. Brinson ----- "  
P. B. Beddingfield ----- "

**LAURENS COUNTY.**

President—J. J. Barton ----- Dublin  
V.-Pres.—A. T. Coleman ----- Caldwell  
Sec.—J. H. Moore ----- Dublin  
Del.—  
J. J. Barton ----- Dublin  
A. T. Coleman ----- Caldwell  
J. H. Moore ----- Dublin  
J. E. New ----- Dexter  
J. H. Weddington ----- Dublin  
C. T. Moye ----- Briton  
W. R. Brigham ----- Dublin  
C. B. Manning ----- Lovett  
W. F. Massie ----- Chester  
J. N. Roland ----- "

R. J. Chappell ----- Dudley  
W. C. Shelnett ----- Montrose  
E. B. Claxton ----- Dublin  
W. C. Thompson ----- "  
J. H. Duggan ----- Irwinton  
T. J. Blackshear ----- Dublin  
H. T. Hodges ----- "  
D. D. Woodward ----- Dudley  
W. E. Beddingfield ----- Rentz

**LOWNDES COUNTY.**

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V.-Pres.—F. H. Thomas ----- "  
Sec.—J. F. Mixson ----- "  
Del.—A. Griffin ----- "  
T. E. Pennington ----- Naylor  
A. G. Little ----- Valdosta  
A. Griffin ----- "  
J. M. Smith ----- "  
F. H. Thomas ----- "  
J. F. Mixson ----- "  
D. W. Freeman ----- "  
E. P. Quillian ----- Clayville  
J. A. Thomas ----- Valdosta  
P. C. Quarterman ----- "  
J. F. Prescott ----- Lake Park  
Frank Bird ----- Valdosta  
G. O. Allen ----- Forgo  
Lee L. Robinson ----- Naylor  
A. J. Smith ----- Valdosta

**MADISON COUNTY.**

President—  
V.-Pres.—  
Sec.—J. L. Baker ----- Carlton  
Del.—  
A. J. Griffith ----- Comer  
W. D. Ghloston ----- Danielsville  
O. L. Deadwyler ----- Carlton  
J. L. Baker ----- "  
G. W. Westbrook ----- Ila  
R. J. Westbrook ----- "  
L. E. Roper ----- Comer

**MERIWETHER COUNTY.**

President—E. B. Terrell ----- Greenville  
V.-Pres.—  
Sec.—Frank P. Norman ----- Greenville  
Del.—  
E. B. Terrell ----- Greenville  
Frank P. Norman ----- "  
John W. Pinkston ----- "  
R. B. Gilbert ----- "  
J. A. Thrash ----- "  
B. H. Brock ----- "

**MITCHELL COUNTY.**

President—J. L. Brown ----- Camilla  
V.-Pres.—  
Treas.—C. A. Stevenson ----- Camilla  
Del.—  
J. L. Brown ----- Camilla  
F. L. Lewis ----- "  
J. M. Spence ----- "  
C. A. Stevenson ----- "  
J. R. Clements ----- Pelham  
W. S. Hill ----- "  
A. S. Hargrove ----- "

**MONROE COUNTY.**

President—W. P. Ponder ----- Forsyth  
V.-Pres.—  
Sec.—W. J. Smith ----- Juliett  
Del.—G. L. Alexander ----- Forsyth  
W. P. Ponder ----- Forsyth  
G. L. Alexander ----- "  
R. C. Goolsby ----- "  
J. O. Elrod ----- "  
R. C. Goolsby, Jr. ----- "  
W. H. Smith ----- Juliett

**MONTGOMERY COUNTY.**

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 V.-Pres.—W. M. Moses -----"  
 Sec.—J. E. Hunt -----Mt. Vernon  
 Del.—J. W. Palmer -----Ailey  
 R. H. Mobley -----Uvalda  
 W. M. Moses -----"  
 J. H. Dees -----Alston  
 J. W. Palmer -----Ailey  
 J. E. Hunt -----Mt. Vernon

**MUSCOGEE COUNTY.**

President—  
 V.-Pres.—  
 Sec.-Treas.—M. H. Blanchford—Columbus  
 Del.—  
 S. C. Evans -----Columbus  
 J. M. Baird -----"  
 B. W. Allen -----"  
 J. F. Odom -----"  
 P. A. Tatum -----"  
 B. B. Jamison -----"  
 S. H. Munro -----"  
 F. M. Gordy -----"  
 F. L. Cosby -----"  
 C. A. Dexter -----"  
 W. T. Gautier -----"  
 J. M. Anderson -----"  
 Thos. E. Mitchell -----"  
 J. I. Darby -----"  
 Alice Moses -----"  
 M. H. Blanford -----"  
 S. E. Young -----Midland  
 J. M. Crook -----Columbus  
 J. H. McDuffie -----"  
 R. L. Williams -----"  
 J. R. Youmans -----"  
 E. L. Baker -----"  
 W. L. Des Portes -----"  
 W. H. Campbell -----"  
 J. C. Wooldridge -----"  
 O. B. Tucker -----"  
 P. H. Christian -----"  
 J. H. Johnson -----"  
 W. L. Cooke -----"

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 V.-Pres.—  
 Sec.—  
 Del.—  
 J. E. Bradford -----Spring Place

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President—  
 V.-Pres.—  
 Sec.—  
 Del.—  
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 Z. M. Story -----"  
 B. F. Riley, Jr. -----"  
 B. M. Gibson -----"

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President—  
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 Sec.—Jno. H. Randle -----Covington  
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 W. D. Travis -----Covington  
 Jno. H. Randle -----"

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President—  
 V.-Pres.—  
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 Del.—  
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 J. I. Mathews -----"  
 J. T. Anderson -----"  
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 Sec.—J. M. Anderson -----Barnesville  
 Del.—C. H. Willis -----"  
 J. M. Anderson -----Barnesville  
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 D. L. Head -----Concord  
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 J. M. Rogers -----"  
 C. E. Suggs -----"  
 C. H. Willis -----"

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President—  
 V.-Pres.—  
 Sec.—W. W. Tison -----Cedartown  
 Del.—  
 E. H. Richardson -----Cedartown  
 J. W. Good -----"  
 J. J. Cooper -----"  
 J. A. Liddell -----"  
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 V.-Pres.—  
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 Del.—  
 T. H. Andrews -----Cuthbert  
 F. D. Patterson -----"  
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 A. L. Crittenden -----Shellman  
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S. J. Lewis -----  
L. G. Houser -----  
W. D. Cutter -----  
J. M. Hull -----  
A. Hull -----  
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T. D. Coleman -----  
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J. F. Burdshaw -----  
W. W. Battey -----  
R. I. Bryson -----  
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Jos. Akerman -----  
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J. M. Caldwell -----  
G. W. Mountain -----  
H. J. Eve -----  
C. W. Crane -----  
Geo. T. Horne -----  
H. J. Deas -----  
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M. M. Kershaw -----  
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J. B. Wright -----  
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E. P. Rice -----  
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J. R. Statham -----  
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B. T. Wise -----  
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K. Wood ----- Leslie  
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E. R. Anthony ----- Griffin  
J. R. Anthony -----  
T. E. Drewery -----  
M. F. Carson -----  
T. I. Hawkins -----  
W. H. Howard ----- Experiment  
W. H. Swain ----- Griffin  
C. L. Tucker -----  
N. B. Drewery (Hon. Mem.) -----  
G. F. Johnson (Hon. Mem.) -----  
W. H. Austin -----  
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W. L. Beachamp ----- Williamson  
E. R. Anthony, Jr. ----- Griffin  
Webb Conn -----

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Sec.—G. G. Lunsford ----- Weston  
el.—W. F. McCurdy ----- Richland  
J. M. Kenyon ----- Richland  
W. C. Sims -----  
G. G. Lunsford ----- Weston  
W. F. McCurdy ----- Richland  
R. L. Grier ----- Lumpkin  
J. H. Foster ----- Preston  
J. F. Lunsford -----  
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M. Walton ----- Lumpkin  
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Del.—J. A. Rhodes ----- Crawfordville  
O. F. Portwood ----- Crawfordville  
L. R. Brown ----- Sharon  
John A. Rhodes ----- Crawfordville  
H. H. Beazley -----  
A. T. Ray ----- Sharon

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O. L. Alexander ----- Reidsville  
D. S. Clanton ----- Hagan  
L. A. DeLoach ----- Glenville  
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J. M. Hughes ----- Glenville  
J. C. Harris ----- Collins  
R. D. Jones ----- Elzie  
J. J. Kenneedy ----- Collins  
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F. W. McCall ----- Reidsville  
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S. F. Smith ----- Glenville  
G. W. Tootle -----  
H. L. Tippins -----  
C. B. Walling ----- Collins



J. W. Daniel ----- Claxton  
J. C. Collins ----- Manases  
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Del.—  
J. E. Mangham ----- Reynolds  
S. H. Bryan ----- "  
A. F. Fickling ----- Butler  
W. W. Edwards ----- "  
R. C. Montgomery ----- "  
C. H. Richardson ----- Montezuma  
Chas. A. Greer ----- Oglethorpe  
J. N. Childs ----- Ideal  
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T. G. Turk ----- Reynolds  
F. M. Mullino ----- Montezuma

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Del.—  
B. W. Yawn ----- Milan  
J. W. Neal ----- Scotland  
W. H. Born ----- McRae  
H. S. Maloy ----- Milan  
C. J. Maloy ----- Helena  
T. J. McMillan ----- Milan  
F. P. Harbin ----- Scotland  
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Sec.—C. J. Hooten ----- Bronwood  
W. H. Gardner ----- Dawson  
J. H. Lewis ----- "  
J. W. Patterson ----- "  
J. J. Anderson ----- "  
J. B. Parham ----- Parrott  
J. T. Arnold ----- "  
E. E. Anderson ----- Bronwood  
C. G. Hooten ----- "  
Logan Thomas ----- Dawson  
J. G. Dean ----- "  
R. E. Bowman ----- Bronwood  
L. Lamar ----- Dawson  
G. Chappell ----- "  
S. P. Kenyon ----- "

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Del.—A. D. Little ----- "  
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C. H. Ferguson ----- "  
Harry Ainsworth ----- "  
W. J. Jennings ----- "  
J. B. Palmer ----- "  
Thomas J. Holton ----- "  
John Schrieber ----- "  
A. D. Little ----- "  
S. E. Sanchez ----- Barwick  
H. H. Vann ----- Boston  
P. L. Hollingsworth ----- Meigs  
J. N. Isler ----- "  
W. W. Jarrell ----- Thomasville  
E. S. Lawton ----- "  
John M. Beggs ----- Pavo  
J. L. Summerlin ----- Meigs  
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J. E. Harris ----- Pavo  
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Del.—N. Peterson ----- "  
L. A. Baker ----- Tifton  
W. T. Smith ----- "  
V. F. Densmore ----- "  
N. Peterson ----- "  
Chas. Hamilton ----- "  
W. H. Hendricks ----- "  
G. W. Julian ----- "  
I. Willis ----- Omega  
D. B. Harrell ----- Tifton  
A. J. Kemp ----- "  
C. S. Pitman ----- "

**TOOMBS COUNTY.**

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V.-Pres.—J. O. Rountree ----- Vidalia  
Sec.—W. W. Odom ----- Lyons  
Del.—R. D. McLeod ----- "  
I. E. Aaron ----- Lyons  
J. E. Mercer ----- Vidalia  
C. D. Williams ----- "  
J. O. Rountree ----- "  
M. L. Currie ----- "  
H. C. Sharpe ----- Aulston  
Geo. T. Gray ----- Lyons  
R. D. McLeod ----- "  
W. W. Odom ----- "  
H. D. Youmans ----- "

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V.-Pres.—  
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Del.—  
B. T. Johnson ----- Bluffton  
C. R. Barksdale ----- Blakely  
W. J. Tatum ----- Ft. Gaines  
W. H. Alexander ----- Blakely  
J. G. Standifer ----- "  
W. B. Standifer (Hon.) ----- "  
S. P. Holland ----- "  
E. C. Smith ----- Jakin  
B. L. Bridges ----- Morgan  
P. H. Keaton ----- Damascus  
W. H. Quillian ----- Arlington  
J. H. Crozier ----- Cedar Springs  
J. S. Beard ----- Edison  
B. K. Simmons ----- R. F. D. No. 1, Blakely  
J. L. Shepherd ----- R. F. D., "  
C. K. Sharp ----- Arlington  
B. C. Bird ----- Colquitt  
P. H. Fitzgerald ----- Blakely  
Clinton Reed ----- Hilton  
C. Jenkins ----- Edison  
C. O. Tye ----- "  
C. P. Holmes ----- Ft. Gaines  
J. L. Cheshire ----- Damascus  
C. W. Twitty ----- Elmodel  
W. E. Sanders ----- Arlington  
W. O. Shepherd ----- Bluffton  
W. C. Hays ----- Colquitt

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President—  
V.-Pres.—J. E. Lane ----- LaGrange  
Sec.—  
Del.—  
W. H. Clark ----- LaGrange  
W. R. McCall ----- "  
Dr. Harvey ----- "  
C. A. P. Ebbert ----- Hogansville  
H. R. Slack ----- LaGrange  
W. E. Morgan ----- "

R. A. Verdier	-----	"
W. W. Rutland	-----	"
R. O. Lee	-----	"
J. E. Lane	-----	"
H. H. Hammett	-----	"
G. H. Hefflin	-----	Hogansville
H. W. Terrell	-----	LaGrange
J. R. Dickie	-----	"
R. P. White	-----	"
E. R. Park	-----	"
B. D. Blackwelder	-----	"
Rance O'Neil	-----	West Point
C. O. Williams	-----	"
Tom G. Gaunt	-----	"
H. McCollough	-----	"
Jno. M. Poer	-----	"
M. F. Haygood (State Bd. of Health)	-----	Atlanta

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President—	-----	"
V.-Pres.—	-----	"
Sec.—	-----	"
Del.—	-----	"
J. M. Hartley	-----	Jeffersonville
J. G. Slappey	-----	"
T. J. Jones	-----	"

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V.-Pres.—	-----	"
Sec.—Jno. T. Moore	-----	Sycamore
Del.—	-----	"
J. H. Baxter	-----	Ashburn
Jno. T. Moore	-----	Sycamore
H. M. Belnower	-----	"
W. A. Harrison	-----	"
W. L. Story	-----	Ashburn
G. R. Luke	-----	"
J. W. Bradley	-----	"
W. J. Dixon	-----	Rebecca

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V.-Pres.—C. A. Harris	-----	The Rock
Sec.—H. A. Barron	-----	Thomaston
Del.—E. W. Carter	-----	"
A. H. Black	-----	Thomaston
J. M. McKenzie	-----	"
H. A. Barron	-----	"
C. A. Harris	-----	The Rock
E. W. Carter	-----	Thomaston

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President—	-----	"
V.-Pres.—	-----	"
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Del.—	-----	"
D. S. Middletown	-----	"
J. L. Gardner	-----	Sulphur Springs
R. M. Coulter	-----	France
M. H. Speer Man	-----	Chickamauga
H. F. Shields	-----	"
J. M. Underwood	-----	LaFayette
S. W. Fariss	-----	"
R. M. Coulter	-----	"
T. H. Hammond	-----	"
J. A. Shields	-----	Villanow
R. E. Tally	-----	R. F. D., LaFayette
J. P. McWilliams	-----	"
D. G. Elder	-----	Chickamauga
L. P. Wilbanks	-----	Rossville
I. P. Hunter	-----	Kensington
M. M. Crowder	-----	"
W. D. Rogers	-----	Pittsburg
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M. W. Murphy	-----	Ringgold
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V.-Pres.—W. K. Swann	-----	"
Sec.—P. T. Reynolds	-----	"
Del.—C. S. Floyd	-----	Logansville
J. N. B. Spence	-----	Social Circle
J. B. H. Day	-----	"
C. S. Floyd	-----	Logansville
J. A. Pirkle	-----	Monroe
J. W. Smith	-----	"
W. K. Swann	-----	"
Jas. K. McClintic	-----	"
H. B. Nunnally	-----	"
G. R. Wells	-----	"
O. N. Pendergrass	-----	"
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P. T. Reynolds	-----	"
J. A. Gerding	-----	Jersey
W. E. Brassell	-----	Logansville

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Del.—J. R. Burdett	-----	Tennville
E. S. Peacock	-----	Harrison
T. E. Vickers	-----	Wrightsville
G. W. Malone	-----	Sandersville
S. B. Malone	-----	"
O. L. Rogers	-----	"
W. M. Rawlings	-----	"
W. C. Troutman	-----	Tennville
D. E. McMaster	-----	"
J. R. Burdett	-----	"
N. H. Lozier	-----	Warthen
P. C. Nunn	-----	Davisboro
N. J. Newson	-----	Sandersville
H. A. Herman	-----	"
B. L. Helton	-----	Deepstep
E. A. Harris	-----	"
F. B. Rawlings	-----	"
L. A. Graybill	-----	Oconee
B. O. Joiner	-----	Tennville
J. B. Dillard	-----	Davisboro
R. L. Tailor	-----	"
W. B. Worthan	-----	"
L. O. McBride	-----	Oconee
C. D. Redding	-----	Warthen
Louis Hannah	-----	Sandersville

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Sec.—G. R. Maner	-----	"
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G. R. Maner	-----	"
F. B. Rickseton	-----	"
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H. L. Erwin	-----	"
J. G. McAfee	-----	"
B. L. Kennedy	-----	"
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W. E. Wood	-----	"
W. M. Painter	-----	"
G. L. Broadrick	-----	R 3, "

**WILCOX COUNTY**

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J. T. Gammage	"
S. B. Ellis	Pitts
J. N. Dorminy	Seville
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C. D. McRae	"
B. R. Russell	

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V.-Pres.—W. J. Hall	Oakfield
Sec.—W. C. Tipton	Sylvester
Del.—W. C. Tipton	"
J. L. Tracy	Sylvester
W. J. Hall	Oakfield
T. C. Deariso	Sylvester
C. B. Weathers	Oakfield
E. D. Ford	Doles
S. W. Johns	"
H. S. McCord	No. Doerun
W. C. Tipton	Sylvester
W. W. Sessions	Summer
T. W. Taylor	Sylvester
J. H. Sessions	Shingler

**THIRD RESUSCITATION COMMISSION.**

(Under the Auspices of the Committee on  
Safety Rules and Accident Prevention  
of the National Electric Light  
Association.)

**PROCEEDINGS AND RESOLUTIONS.**

Edited by Professors Howell, Stewart and  
Thomson.

The Commission met in New York at the Rockefeller Institute, Friday, May 17, 1918.

There were present at the meeting: Past Assistant Surgeon E. F. DuBois, U. S. N. R. F. of the Bureau of Medicine and Surgery, Navy Department;; Dr. D. L. Edsall, Professor of Medicine and Dean, Harvard Medical School; Mr. W. C. L. Eglin, Chairman of Committee on Safety Rules and Accident Prevention of the N. E. L. A.; Dr. Yandell Henderson, Professor of Physiology, Yale University and Consulting Physiologist of the Bureau of Mines; Dr. Wm. H. Howell, Professor of Physiology and Assistant Director of the School of Hygiene and Public Health, Johns Hopkins University, Member of the National Academy of Sciences; Dr. Reid Hunt, Professor of Pharmacology, Har-

vard Medical School, Secretary of Commission; Prof. A. E. Kennelly, Professor of Electrical Engineering at Harvard University and the Massachusetts Institute of Technology; Dr. Charles A. Lauffer, Medical Director of the Westinghouse Electric Co., Pittsburgh, Pa.; Dr. S. J. Mettler, Rockefeller Institute, Chairman of Commission, Member of the National Academy of Sciences; Dr. Joseph Schereschewsky, Assistant Surgeon General, U. S. Public Health Service; Dr. G. N. Stewart, Professor of Experimental Medicine, Western Reserve University, Cleveland; Prof. Elihu Thomson General Electric Co., West Lynn, Mass., Member of the National Academy of Sciences; Lieut. Colonel Edward B. Vedder, of the Army Medical School; Major Frank G. Young of the Ordnance Division of the War Department.

A telegram was received from Surgeon General Gorgas that Dr. Charles H. Frazier, Professor of Surgery, University of Pennsylvania is to represent his office. (In a subsequent communication Major Frazier accepted his appointment.) Conferees: Mr. P. H. Bartlett, Philadelphia Electric Company; Mr. Wills MacLachlan, Electrical Employers Association, Toronto, Canada; Mr. C. B. Scott, Chairman of the Sub-Committee on Accident Prevention N. E. L. A.; Dr. F. E. Schubmehl, General Electric Co., West Lynn, Mass.

The object of the Commission the Chairman stated, is to consider efficient methods of artificial respiration in emergency cases, **as they are met with in peace as well as in war.** For more than a century, England has had several life-saving societies, and many special commissions have been appointed to investigate the methods employed in resuscitation. In this country, about six years ago, a Commission on Resuscitation from Electric Shock was created for the first time by the initiative of the National Electric Light Association. It char(ciponwos organized that efficient artificial respiration is, for such conditions, the best and practically the only means available for resuscitation. It requires but little consideration to realize that the need for an efficient means of artificial respiration is very widespread. The Committee on Safety Rules and Accident Rules and Accident Prevention of the N. E. L. A., of which Mr. Eglin is the



Chairman, agreed that **THE THIRD RESUSCITATION COMMISSION SHOULD CONSIDER ITS PROBLEMS FROM A GENERAL POINT OF VIEW.**

**Mechanical Methods.** Dr. Meltzer demonstrated in the laboratory for physiology and pharmacology, the efficiency of the method of pharyngeal insufflation in an etherized dog after complete removal of the anterior wall of the thorax, in which the lungs and heart were exposed to full view. (18 minutes.)

Dr. Rossieter of the Carnegie Steel Company, demonstrated the latest device of the Pulmotor Company, which is not identical with the original Pulmotor. He showed also the original Pulmotor. He stated that resuscitated eight gas cases, in which the respiration had stopped. This was done by the original Pulmotor in which he had more confidence. (32 minutes.)

Dr. James M. Booher, Medical Director of the Life Savings Device Co., demonstrated the Lungmotor. He showed a number of blood pressure tracings, taken from animals which had received artificial respiration by means of this apparatus. In reply to a question, Dr. Booher stated that in these experiments the Lungmotor was connected with the animal by means of a tracheal cannula (In human cases the Lungmotor is applied by means of a face mask). Dr. Booher left with the Commission histories of a number of cases in which the lungmotor had been used. (30 minutes.) (The Commission found no time to examine these written histories, but Dr. Booher mentioned verbally especially two cases. One of these cases was subsequently investigated by the Chairman. The life of a poliomyelitis patient with complete paralysis of the respiration was maintained for thirty-six hours by means of the Lungmotor. (The reporting physician is of very good standing).)

In introducing Mr. Foregger, the Chairman explained that the physician who was most competent to present the details of the apparatus of the Foregger Company is now in France. Mr. Foregger was allowed fifteen minutes. The apparatus consists in modifications of the insufflation apparatus of Meltzer. Among other changes, the apparatus carried an oxygen generator tank. In reply to a question, Mr. Foregger stated that the oxygen thus generated may last eight or ten minutes.

**Manual Methods.** Mr. Eglin read a letter from Mr. M. W. Alexander of the General Electric Co., stating that he hoped the Commission would be very definite in recommending the prone-pressure method, an experience has proved its value."

Mr. C. B. Scott stated that the Accident Prevention Committee of the N. E. L. A. had reached the point in its investigation where it felt that the prone-pressure method was best to recommend, bearing in mind that machines are not always available in emergencies. His own company had had nine successful cases of resuscitation by the prone method and three unsuccessful cases in which mechanical means were used.

Dr. Schubmehl stated that the prone pressure method has been most successfully applied by their two hundred and twenty-five First-Aid Men.

Mr. MacLachlan stated that he had the duty of training possibly three thousand men in the prone method. Their system required the men to practice this method at least once a month. The men are instructed not to desist in less than three and a half hours, and that not till then should they listen to advice from a physician who might tell the operator that the patient was dead.

The Secretary read the following parts of a letter from Professor Schafer of Edinburgh to the Chairman: "The prone method has been adopted **exclusively** for about twelve years by the Royal Life Saving Society, the only important organization in the British Empire whose object is the resuscitation of the apparently drowned. It has been adopted for several years by the London and other Police Force, by the Board of Trade, by the Army and Navy." "The most important thing is in cases of drowning to have something ready which any man can use; which will effect respiratory exchange—whether exactly as much as normal, matters very little."

#### **RESOLUTIONS ADOPTED BY THE COMMISSION.**

In the discussion following the presentation of methods and evidence to the Commission the following important facts were emphasized:

1. That in most accident cases no resuscitation apparatus is at hand for immediate use.

2. That reliance upon the use of special apparatus diminishes greatly the tendency

to train persons in the manual methods and discourage the prompt and persevering use of such methods.

3. That police officers or physicians often interfere with the proper execution of manual methods, in that they direct that the patient be removed in an ambulance to some hospital, thus interrupting the continuance of artificial respiration.

4. That in many hospitals the members of the staff are not all acquainted with the methods of artificial respiration.

5. That in medical schools instruction is not properly provided for students in the manual methods of artificial respiration.

In view of these facts the following resolutions were adopted by the Commission:

1. The prone-pressure or Schafer method of resuscitation is preferable to any of the other manual methods.

2. Medical Schools, Hospitals, Fire and Police Departments, the Army and Navy, First Aid Associations, and Industrial establishments in general, should be urged to give instruction in the use of the prone-pressure method of resuscitation.

3. Individuals who, from accident or any other cause, are in need of artificial respiration, should be given manual treatment by the prone-pressure method immediately on the spot where they are found. It is all important that this aid be rendered at once. The delay incident to removal to a hospital or elsewhere may be fatal, and is justifiable only where there is no one at hand competent to give artificial respiration. If complications exist or arise, which require hospital treatment, artificial respiration should be maintained in transit, and after arrival at the hospital, until spontaneous respirations begin.

4. Persons receiving artificial respiration should, as much as possible, be kept warm and the artificial respiration should be maintained till spontaneous breathing has been permanently restored, or as long as signs of life are present. Even in cases where there is no sign of returning animation, artificial respiration should be kept up for an hour or more.

5. A brief return of spontaneous respiration is not a certain indication for terminating the treatment. Not infrequently the patient after a temporary recovery of respiration stops breathing again. The patient must be watched and if normal breathing stops, the

artificial respiration should be resumed at once.

6. Artificial respiration is required only when natural respiration has ceased. In cases of simple unconsciousness from any cause in which natural respiration continues, artificial respiration should not be employed without medical advice.

7. The Commission recommends that in cases of asphyxiation, artificial respiration, whether given by a manual method or by special apparatus, should be combined when possible with the inhalation of oxygen from properly constructed apparatus.

8. With regard to the employment of mechanical devices for artificial respiration the Commission feels that it ought not at present to take a definite stand either for or against any particular form of apparatus. However, the Commission recommends, that the use and installation of apparatus should be confined, for the present, to properly equipped institutions under medical direction. The Commission recognizes the great need of simple devices capable of performing artificial respiration reliably and efficiently. It therefore recommends a careful study of the problem, directed to ward **the development of a reliable method appropriate for general adoption.\*** Such studies can best be carried on in properly equipped hospitals and laboratories which offer opportunities and facilities for critical observation and experimentation.

In view of the importance which the knowledge of proper methods of resuscitation possesses for public health and safety and considering the fact that many practitioners, members of hospital staffs and graduates of medicine are not thoroughly familiar with the methods of resuscitation, especially that of the prone-pressure method, the Commission recommends.

(a) THAT MEDICAL JOURNALS (and other scientific and practical journals which are interested in the problem of resuscitation) BE ASKED TO PUBLISH THE RESOLUTIONS ADOPTED BY THE COMMISSION.

(b) THAT A COPY OF THESE RESOLUTIONS BE SENT TO THE MEDICAL COLLEGES WITH A REQUEST THAT PROPER INSTRUCTION IN THIS SUBJECT shall be arranged for in the **College Schedules.**

(c) That these resolutions be sent to as



many hospitals as possible, with the recommendations that members of the house staff shall familiarize themselves with the methods of resuscitation.

(d) In order that the resolutions of the Commission may be brought to the attention of interested circles (fire and police departments, industrial plants, etc.), it was agreed that they be communicated to the Associated Press (by the National Electric Light Association).

It was voted that the Third Resuscitation Commission should be properly organized and continue its existence, ready to respond when requirements arise. The following officers were elected:

President—Dr. S. J. Meltzer.

Vice President—Dr. Yandell Henderson.

Secretary—Dr. Reid Hunt.

Treasurer—Mr. W. C. L. Eglin.

It was voted to appoint a Committee for the collection of verifiable data relating to resuscitation. The President appointed the Committee:

Dr. D. Edsall, Chairman.

Dr. Reid Hunt, Secretary.

Prof. Elihu Thomson, and the President Ex-Officio.

The Commission consists of fifteen members. Fourteen approved the foregoing report without qualifications. The fifteenth member wishes to qualify his vote by the following:

#### Statement.

Dr. Yandell Henderson qualifies his support of the resolutions as follows:

While I concur in a considerable part of the report of the Resuscitation Commission I dissent from the statement in Resolution 8 recognizing "the great need of simple devices capable of performing artificial respiration reliably and efficiently."

Devices which are excellent from the mechanical standpoint are now available and widely sold; but the evidence regarding them indicates clearly, I believe, that even if these devices were on the spot where several gassings or electrocutions occurred, and if all the victims were treated with them, except one who was given manual (prone-pressure) treatment, this one would have much the best chance of recovery. In actual practice the apparatus is seldom right on the

spot adjusted and ready. Critical time is lost, and thus in the above suppositious cases as they actually occur, the only victim with any considerable chance of resuscitation (aside from those who recover spontaneously and are credited to the apparatus) is the one treated manually.

Even more important is the fact, demonstrated now by universal experience, that when apparatus is known to be obtainable, it is sent for and the manual method neglected. Thus today the apparatus in public use is on the whole contributing very materially to increase the saving of life

#### HEALTH ALMANAC.

One of the almanacs of the 16th century bore the following title:

"Pronostyceacyon of Mayster John Thybault, medycyner and astronomer of the Emperyall Mapestie, of the year of Uur Lorde God MCCCCXXXIJ, comprehending the iij partes of this yere, and of the influence of the mone, of peas and warre, and of the sykenesses of this yere, with the constellacions of them that be under the vij planettes, and the revolutoins of Kunges and princes, and of th eelipses and comets."

We are still prognosticating on the subjects of "peas and warre, and the revolutions of Kynges and princes," but the United States Public Health Service in its Health Almanac for 1919 is not content with chronicling our various ills, but preaches prevention of the "sykenesses of this yere."

In addition to the monthly calendar of health hints and notable events, this almanac discusses such topics as the following:

Control and prevention of infectious diseases, as pneumonia, common colds, tuberculosis, infantile paralysis, typhoid fever, smallpox, trachoma, hookworm disease, and venereal diseases.

Disposal of Human Excreta.

Importance of Clean Drinking Water.

Care of the Teeth.

Care of Milk in the Home.

What the U. S. Public Health Service is doing to protect the health of the people of the United States.

Copies of the 1919 almanac may be obtained free upon application to the U. S. Public Health Bureau, No. 3 B. Street, S. E., Washington, D. C.



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- No. 9.—In 5-mil vials, each mil strength of Syringe D
- No. 11.—Single syringe, D strength
- No. 12.—Single syringe, E strength
- No. 14.—Single syringe, F strength

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